

# MASSACHUSETTS PLOUGHMAN

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MASSACHUSETTS PLOUGHMAN  
NEW ENGLAND  
JOURNAL OF AGRICULTURE

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## Agricultural.

### Changes in Farm Life.

Within a few years have come certain changes in the life of those on the farm which seem to make the farm less isolated, and the life more social. First and chief among these we would name the establishment of the order of Patrons of Husbandry which unites the farmers and their families for social gatherings and for mutual comparison of methods and results, as well as for union against those who would take advantage of a single farmer as they cannot of a combination. When they are united and meet regularly, the prices at which one buys his implements, fertilizers, seeds, or whatever he may need, or the prices at which he sells his products are known to all, and while all may not obtain the same figures, as all may not offer the same quality, there is less chance of some selling for a price below the market value, because they do not know what other buyers offer or other growers are asking. All this is important to the farmer's pocketbook or bank account, and if those are not the all-important things, they are very necessary, that he should feel himself on an equality with his fellow-men in other business.

The social feature, however, is not less important. The farmer with a few acres meets the man with a thousand acres or more as an equal. It may even happen that his smaller area, more intensive cultivation and closer observation may have fitted him to teach the man with more acres and larger flocks and herds, who has not gotten down so closely to the study of nature and nature's laws.

Nor is this all. When men meet in the advancement of the same great objects they devote thought to it, and are prepared to discuss it. The man who is naturally reticent, or who is not willing to talk because he fears that he may display a deficiency of early education or of oratorical powers, may become so interested that he will forget all of that, when he thinks he has learned something new, or has a decided opinion that he wishes to advocate, while the voluble and fluent talker may be led to keep quiet at least until he has given the subject a little thought and a little study. One of the most eloquent speakers we ever heard at an agricultural meeting would talk an hour, and there would not be as many ideas in all he said as there is nourishment in a glass of soda water. It might be sweet flavored, but it was nothing but foam.

We have heard another who made no pretensions to eloquence and whose pronunciation and grammar were far from being up to the standard, but whose whole speech was as full of the plain statements of facts as the multiplication table. To leave out one line was to make a serious break in the whole. The other might have all been left out excepting the notes which marked "laughter" and "applause." The Grange then makes the modest man more self-asserted and confident, and is apt to reduce the self-conceit of some others. And more, it does for the women and for the younger people what it is doing for the older ones. It keeps them interested, too, in the work of the farm, while it is training them for a possible public life in the future, when the farmers will not think it is necessary to send a lawyer or a minister to represent them at the State House or in Congress, because "a farmer cannot talk with the other men."

Having mentioned the Grange and its improving influence we can now add to it the telephone, so convenient not only for keeping him in close communication with his markets where he has to sell, or where he buys, but as neighbor with neighbor; with the physician or surgeon if they are needed; with police and fire department, calling help perhaps when one could not even get to harness the horse, much less to ride or drive any distance. We hope that we may live to see nearly every farmhouse connected with others and with central stations. Suppose that there may be some idle gossip going on over the lines at times. Few can stand the test of being always preaching or lecturing, seeking for or giving useful information. The old saying is that "a little nonsense now and then is relished by the best of men," and it might as well be by telephone as to be reserved until personal meetings.

The free delivery of mails in the rural districts is an innovation which is even later in its introduction, but is almost a direct outgrowth of the works of the Patrons of Husbandry. It is not necessary now for the farmer or some of his family to visit the postoffice daily for news from absent friends in sickness or in health, and keeping away from the village he can the easier keep away from the tavern that is too often near the postoffice. The farmer can receive his daily papers or his weekly as

soon as they come out, and the time that was once spent in going for them can now be spent in reading them. He can afford to subscribe for more of them because he can read them more carefully.

And the improvement in those agricultural papers is a progress in itself well worth noting. Not only are there the general agricultural papers which try to keep a little going of all sorts, but if he has any hobby or specialty to which he wishes to give more study, he can find papers that are devoted to special branches,—dairying, sheep or poultry breeding, orchards, small fruits, Belgian hares or Angora goats,—and their articles are written by men who have made a special study of such topics, men who can give facts instead of propounding theories.

The agricultural colleges and experiment stations have also done much to educate the farmers and to educate the men who are

better than the rules that have prevailed at some fairs, which seemed to be: (1) How much has the owner done for the promotion of the fair? (2) When did he get a premium? (3) How many premiums has this other man been given? (4) What have the other fairs where they have shown decided? and (5) Is he a pretty good fellow? Sometimes No. 5 seems to be the first consideration, and we have attended fairs where these five seemed to be all that influenced the judges.

To those who want to breed pigs to sell we do not know as we can recommend any breed as better than the Yorkshire, either large, medium or small, for we look upon them as all of one blood naturally, only changed by the selection of types, as are the different breeds of poultry that vary more in color than in form or other qualities. There used to be those known as Cheshire

show that we could expand our sheep industry about fifteen times without raising more sheep to the acre than they do in England. The improvement noted, and which should be extended much further, is that of making every acre supply more food for the sheep, and in such a way that it would actually cost less to raise sheep than it does on the free range. This, of course, must be accomplished by raising the right crops, and by taking advantage of the sheep's power to increase the fertility of the soil. The weeds, briars and bushes in a field represent just so much waste of space. The sheep will not eat them and they annually take up so much room. By grubbing these out it is possible to improve the pasture without much help. The sheep will keep them down and nibble off any new sprouts that may appear. But we first must take away the weeds,

On light and spongy soil the pasturing of the wheat and rye crops with sheep may be of benefit, not only because it induces more stooling out, causing a thicker growth and less chance of lodging, but because the treading of the sheep makes the soil more

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Rape is a fodder plant whose good qualities are not fully appreciated. In addition to furnishing a rich, succulent food, it prepares the ground for such crops as wheat, rye and other cereals, by reason of its deep-rooting habits, which bring much latent plant food from the subsoil and leave it on the surface available for shallow-rooted grains. Rape, however, is a coarse feeder, and unless it is grazed or the manure returned to the soil, it will impoverish the latter.

While we may not all be "bugologists," it may nevertheless be convenient to have a bug collector's outfit, or at least part of one, on the farm, in case it is desired to prepare specimens of insect pests for identification or shipment to State experiment stations. For the purpose of killing the bugs without injuring or mutilating their bodies, take an empty one or two-ounce, wide-mouthed bottle, it will naturally be a thick, unbreakable bottle, and place in the bottom a piece of cyanide of potassium about one-half inch thick. Over this pour a little liquid plaster of paris, just enough to cover and imbed the cyanide. Close the bottle with a tight cork. It will now be ready at any time to receive bugs, and the killing properties of the cyanide will last a long time. No bug can withstand the fumes for any length of time.

Incubator people may be interested in a report which comes from Saxony of an efficient apparatus for telling to a day the age of an egg. The machine is constructed upon the principles that the air space at the larger end of the egg increases in size with the age of the egg. When the egg is placed in liquid, it has, consequently, an increasing tendency to become vertical, with the blunt end uppermost. The apparatus itself consists of a glass vessel, bearing at the back lines drawn at various angles, each line being marked with the age. The vessel is filled with some harmless liquid, in which the eggs to be tested are laid. Each egg will take up a certain position, and, according to its age, its longer axis will be more or less inclined to the horizon. The direction of this axis is compared with the lines at the back of the vessel, and the age of the egg read off at lines to which its axis is parallel.

A new-laid egg lies horizontally at the bottom of the vessel. An egg three to five days old raises itself from the horizontal, so that its axis makes an angle of about twenty degrees. At eight days old this angle has increased to about forty-five degrees, at fourteen days it is sixty degrees, at about three weeks it is seventy-five degrees, and after four weeks it stands upright on the pointed end. A bad egg floats. With practice it is stated that the age can be told to a day.

In a series of Government wheat-growing experiments in New South Wales, the superiority of drilling over broadcasting seed was incidentally demonstrated by an increased yield of over two bushels per acre in every instance.

In last week's correspondence mention was made of Messrs. Lathrop & Fairchild's world tour in search of new and valuable agricultural seeds and plants. During the trip Mr. Fairchild penetrated the Persian Gulf region and explored the agriculture of the Tigris river. Here he found undreamed of numbers of date trees of all kinds. Some of the first dates of commerce come from near Bagdad. Dates must have thriven in countless forests in the region of the ancient city of Babylon, near where the greatest irrigation reservoir is supposed to have been constructed by the old King Nebuchadnezzar. Mr. Fairchild saw one grove or forest of dates which numbered over five million trees. All the dates in Egypt number but seven million. He secured ten tons of young trees for American date growers in some thirty new varieties, and all early ripening. These will be distributed by the Department of Agriculture throughout our Southwest, and date trees grown from them. The date industry holds great possibilities for this country, but it will be slow in developing, since the dates must be propagated by suckers, as they do not come true to the seed.

Had the present nations of Persia the energy and push which the followers of Cyrus had, they could increase their date forests by thousands of acres. The Tigris country is as level as a floor, and the dates for seventy miles along the river are irrigated by the rise of the tide. Leads are cut from the river out through the maze of date trees, and as the ocean water pushes back the fresh water of the upper Tigris, the latter is forced through the date canals; then as the tide ebbs, the water runs out. Only the lands near the river are ditched, but vast acres additional could be reclaimed if the people possessed the necessary energy to lengthen their canals.

Hand-made Japanese vellum is a fine parchment paper which most of us have wondered probably why the Japs should make better than our Americans. Mr. Fairchild found that it is made from the bark of a very pretty plant which grows in the mountains of Japan. He believes that our own farmers can grow this plant on a large scale, and that our paper manufacturers can find a way to make it up into paper by machinery which will be equal to the Japanese product. He secured a quantity of the plants and they will be experimented with in our milder mountainous regions. He had several specimens of products made from this fibre. Some thin onion-skin paper had almost the toughness of woven cloth, while a pocketbook he showed me appeared like well-tanned leather. A native cloak, reaching nearly to the knees, weighed but eighteen ounces, was thoroughly waterproof and cost in Japan thirteen cents. GUY E. MITCHELL.



A HAPPY FAMILY.

teaching the farmers, so that they are prepared to teach them in the schools, the institutes or through the columns of the press.

### Live Stock Notes.

The Associated Wool Growers Company have received from Nephi, Utah, a fleece of wool that weighed thirty-three pounds net, and when stretched on the floor measured eleven feet long and eight feet wide, with a staple eight inches long. The grade was a good half-blood and pretty fine at that, being almost an X-grade. This is said to be the largest they have received, although they have had many very good ones.

The Michigan Agricultural College named twelve points to the recent graduating class on judging live stock at fairs and elsewhere as follows:

1. Have confidence in your own powers.
2. Concentrate your thoughts on the breed and breed type of the animals you are working upon.
3. Do not hurry. Take time to decide. Having done so, stick to it. "Be sure you are right, then go ahead."
4. If possible, watch the class as it comes into the ring. There is often something about the style and carriage of the winner which marks him out as he walks.
5. Take a minute to look over the line from as near the centre as possible, in order to get a general idea of conformation.
6. Then pass slowly clear around the ring, inspecting each animal from front and rear.
7. Never be satisfied without using your hand in addition to your eyes. Appearances are often deceitful.
8. In handling, always work from front to rear. With cattle, work on the right side, approaching the animal from behind.
9. First pick out the winner of the class; then use it as your standard in placing second and third.
10. When first is placed, briefly sum up its strong points.
11. Look for characteristics and most common breed defects.
12. Pay no attention to either the men with you or the crowd around you. Your business is with the animals.

These rules may be useful to those who have the judging of live stock in other States as well as in Michigan. They would

that we have not seen at fairs, or seen exhibited at any of them lately that we think were much like the medium Yorkshire, and possibly were the same. When we had them they gave us good results, as they were prolific breeders and fattened quickly under good feed. The Poland China are favorites in the Western States, as may be seen by an examination of those sent to our packing-houses, and they suit the packers because they cut up well, with a good proportion of hams and shoulders, and yet a plenty of lard or fat meat, but we fear that many of them in New England, where there are few of them, have been so inbred that they have not retained the reproductive power that they are said to have in the Western States. A litter of six or seven pigs is as much as can be expected from the Poland China here, and often they do not reach that number. Some attribute this to close inbreeding, but we are more inclined to think it is the close confinement usually given to the hogs in the Eastern States, which prevents them from taking the exercise that they are in need of. The same fault has been found with the Berkshire and Essex pigs, but we think the prejudice against black hogs in New England has helped not a little to prevent them from becoming popular here.

"Stick to it and keep a-sticking to it" was the advice a young school teacher gave to a scholar when she came to him with a problem in mathematics which was a greater puzzle to him than to her. That is the advice we would give to all those who have engaged in stock breeding. Having selected a variety to begin with do not be changing every year from Hereford to Jersey, and then to Devon, Shorthorn, and so running through the list as it may chance that a good report is heard or read of some other breed. The same is good advice in regard to sheep, swine and poultry. We do not mean that one should never change, but he should not be too fickle-minded. Make a deliberate choice as to the breed that suits you best, and it will probably be the best bred for you, because you will always be in love with it, which will lead to your doing your best by it. With the poultry and swine a change is not such a serious matter, because one can usually

compact, and less liable for the plant roots to be thrown out by the frost. But there is a danger of feeding too closely. Naturally the sheep like the green feed of the grain fields and thrive well upon it, and the lambs grow rapidly, which is a temptation to keep them on it, but they may gnaw it so closely that there will not be protection enough for the roots if the winter should chance to be cold with but little snowfall. It is better to take them off too soon than to keep them on too long, as the loss by winter-killing might exceed that by lodging if not fed closely enough. On light lands it is not well to let them in at all, or for only a short time, as there is little danger from too rank a growth unless the land is heavily manured with stable manure or other nitrogenous fertilizer. Perhaps in such cases it is better not to let them in at all, as they will not make much growth when turned back to a scanty pasture, unless the food is made up to them by grain rations. A bit of land sown to flat turnips the seed being broadcasted with them and grass seed, makes a good grazing field for sheep until the frost kills the tops. They will eat the leaves and pull up many of the turnips and eat them. This is an old English method, and the turnip fields so pastured with sheep are among their most productive lots for cultivation the next season. The sheep do not appear to hurt the grass roots among the turnips if the field is intended for mowing. If not the grass seed need not be sown with the turnip seed.

### Reducing the Acreage for Sheep.

One of the steady improvements noted in sheep raising is the gradual reduction of the amount of acreage necessary to support a flock of sheep. We have always been extravagant in this respect, demanding two or three times as much land to support a sheep as in any of the European countries. In England, where sheep raising has always been the best and most highly developed, they have one sheep to every three acres, while we have about one to every forty-five. This, of course, does not indicate that the English breeders support more sheep to the acre in every instance than we do. There are instances in this country where we do much better than any of our English brothers. But it does

bushes and briars to give the sheep a chance. The soil is always highly fertilized by the sheep, and their little feet compact the soil around the roots of grass plants so that they are less liable to injury by cold and thawing winter weather. Altogether sheep improve our soil conditions, and a farm properly conducted should be able to support from four to six sheep where today they are feeding one horse or steer. E. P. SMITH.

### Notes from Washington, D. C.

There have been several recent cases of dog biting in Washington where the Agricultural Department chemists have relieved the anxious relatives of bitten boys by determining whether the offending dog was affected with hydrophobia. In one case microscopic examination of the carcass of a dog which bit a child showed that the animal had the dread disease, and the boy was bundled off at once to a Pasteur institute for treatment, before the virus should have accomplished its deadly work.

It seems that there has always been some question whether there is such a disease as hydrophobia, and some few men have contended that there is no such thing, the same as here and there you will find a man holding out against the theory of vaccination for smallpox, with the claim that the disease is not contagious. A couple of years ago, during the "dog days," when all Washington dogs were muzzled by order of the city authorities, the Washington Post took decided exception to a statement given out by the Bureau of Animal Industry on the mad-dog question, and produced several sharp editorials, calling attention to what it termed the hydrophobia fake.

The controversy waxed interesting for a few days. Dr. Salmon, chief of the bureau, was interviewed, and stated positively that the disease was the result of a bacillus well known to science. This statement the Post dismissed as unreliable, and airily closed the incident. However, the majority of the government was piqued, and a bulletin soon appeared in which the subject of hydrophobia was fully discussed by the most eminent authorities in the land, and the disease explained. All of which goes to show that editors are sometimes safer to confine their remarks to news matters than to enter into scientific controversy.



## Dairy Notes.

The Dairy Record of St. Paul, Minn., gives the score of the three samples of butter which were given the three highest prizes at the State Fair in that State. We omit names, but No. 1 scored 97½ points in a total of one hundred; No. 2, made from pasteurized cream, 97 points; No. 3, 96½ points. They were scored again just one week later. No. 1 showed age and had become somewhat rancid. No. 2 was fresh and sweet, and did not show age. No. 3 had developed a woody flavor, besides showing age. No. 1 then scored 92½ points, a falling off of five points in a week; No. 2 had fallen off one point to 96½, and No. 3 five points to 91½. We do not wonder that the butter from the pasteurized cream showed better keeping qualities than the other, but we do wonder why the others fell off so much in flavor in so short a time. We have eaten June and September-made butter, made by the methods in use from fifty to thirty years ago, when it was more than six months old, and we detected no indications of any bad flavor or lack of good flavor. It is true that we are not a professional expert, but we think we could detect a rancid or a woody flavor, then or now. We are inclined to the belief that we suggested some weeks ago, that the water used in washing out the buttermilk and cleaning the milk utensils has much to do with this matter of rapid deterioration. It might often have a woody flavor, or such germs as would cause a rapid change to rancidity, whether it was taken from a town supply or from the farm well. We have tasted water from both sources, which was very good when fresh drawn and cold, but was decidedly unpalatable after standing twelve hours. Such water not thoroughly drained worked out would soon impart bad flavors to the butter.

The use of the separator on the farm will relieve the creameries of one problem which has been a puzzle to some of them, the way to dispose of their skim milk. Many farmers who brought them milk would not take the skim milk, some because it had soured and they thought its feeding value did not repay the extra trouble of thoroughly cleaning the cans they took it home in, and others because they would not bother with pigs and calves anyway. Many of the creameries did not care to engage in the business of fattening pigs, some because they could not easily locate the piggery so that its odors would not reach the creamery, and some of the co-operative creameries because it would require an additional investment which might not prove profitable. Yet almost every farmer has faith that with an abundance of skim milk, the wastes from the farm, and a little purchased grain, he can fatten hogs profitably. We have no doubt that most of them can do so, though some are likely to have better success than others. It is not always the most liberal feeder that makes the best profit, and it never is the one who thinks half enough is a plenty, but the one who knows how to mix the various foods in the proper proportions, and will give them at regular intervals in regular quantities. But the average farmer, with just animals enough to use up his separator skim milk, will do this better than the man at the creamery, unless they employ an expert for that branch of the business.

The New York Farmer says that the inspectors of milk in the city are too ready, when they find milk that is filthy, to put agents at work to find out the farmer who shipped it, and place the blame on him. They search his premises, and if they can find any possible cause to which they can attribute it, they condemn his product and bid buyers to refuse to receive it until a reform has been made. They do not take notice of the sour, filthy cans into which the milk is dumped on its arrival in the city, and the length of time it is allowed to stand uncovered in the foul and dusty air of stables or milk stations before it is sent away to customers or of the filthy clothing and foul breath of those who handle it.

The Allentown (Pa.) Leader says that Mr. Simmons, the food inspector of the Pennsylvania agricultural department, has been testing some forty samples of milk taken from milkmen in Allentown, and he found some adulterated with formalin, and thinks that others have adulterations of boracic acid, salicylic acid and bichloride of mercury, all of which are preservatives, but poisonous in large quantities, and unwholesome in smaller doses. He claims the farmers are more often guilty of adulteration than the milk dealers who peddle it on the street. He found one case where skim milk was mixed with glue, and then colored and sold as pure cream, to be used in making ice cream. (One might think that with glue ice cream and soda made from marble dust, the digestive organs might become as impenetrable to bullets as was that of the soldier who had been dosed with tincture of iron.)

But now you have the two different statements as to milk adulteration, and our readers may decide which is correct, or if they both are correct in some cases, but not in all, and we hope not in a majority of cases.

The following is contained on a card issued by Mr. George H. Barr, inspector of cheese factories in western Ontario.

"The following are some of the causes of gassy and tainted milk:

"Allowing the cows to drink impure water from dirty watering troughs, stagnant ponds, soakage from barnyards.

"Feeding rye, rape, turnip tops, ragweed, leeks or apples.

"Not wiping cows' flanks, udders and teats before milking.

"Milking with dirty hands.

"Using wooden pails for milk.

"Not straining the milk immediately after milking.

"Stirring or aerating (exposing to the air) close to a swill barrel, hogpen, hog trough, hogs, barnyard or milking yard.

"A rusty old milk can.

"Milking the cow, dumping the milk into the milk can and leaving it over night without either straining, aerating or cooling.

"Sour milk is caused by leaving or keeping it at too high a temperature.

"Milk should always be strained and aerated by running through an aerator, dipping and stirring immediately after milking.

"In warm weather the milk should be cooled by setting the pails or cans in cold water while it is being aerated. Cool to 65°.

"Saturday night's and Sunday morning's milk should be cooled to sixty degrees, set in a cool cellar, and covered with a clean robe or blanket and let alone till Monday morning.

"Milk cans and pails should be washed with a brush and lukewarm water in which a little salt is dissolved, then scalded and placed on their sides in the sun. Cans and pails should be scoured with salt occasionally.

"A rusty can should never be used to send milk to the factory.

"Successful dairymaking can be summed up in two words, 'Be clean.'"

## Bees and Honey.

We have been asked how one is to know when the bees have the forty pounds of stored honey that we have said is requisite to carry a colony through the winter out of doors. If the hive and frames were not weighed before they were put in use. The weight of a hive and eight frames, made of well-seasoned stock, is not far from eight to ten pounds, and if with the bees and their stores when it has not been out in a long rain it weighs fifty pounds, it may be presumed that there is not far from forty pounds of stores. The ten and twelve frame hives will weigh more, and need more stores if they are large colonies, as they should be. Perhaps sixty-five pounds as total weight should be enough for them. After one has weighed a few hives he should be able to estimate the weight of others very closely by lifting them, unless he is so strong that he cannot tell whether he is lifting fifty pounds or thirty.

Many writers upon bee topics are now giving their instructions as to the methods of robbing strong colonies of brood comb, and adding to it weak ones, that they may be strong when they go into winter quarters. Experts may be able to do this safely and to advantage, but we would caution those who are new in the business not to try it. There is a chance of weakening the strong colony, so that it will produce but little the next season, and there is also a chance that the weak colony may not have enough nurse bees to care for the brood thus suddenly thrust upon them. Some may say that this is a very small contingency, but the beginner may find it an important one too.

It is better to unite weak colonies, or to unite the bees with a stronger colony, by giving the brood and comb to them, and destroying the queen of the weak colony. There may be cases where the weak colony has the best queen and the other had better be destroyed, but they are not common. An old queen that has begun to be unable to fill her combs with brood, or that has filled a number of queen cells with eggs, may be considered as superannuated if she is in a colony productive of honey, and more surely if her number of eggs in worker cells is not increased. Then it may be well to kill her and put in the queen from a late colony that has plenty of brood cells and but little honey stored up. Many weak swarms may be wintered by feeding even in October. It will induce brood rearing, and may result in a strong colony in the spring. Others may be kept alive through the winter, and although numerically weak in the spring, may so increase, perhaps by a little spring feeding very early, as to prove a good colony in the ensuing summer. One does not like to lose a colony, even though it be of a late swarm, but they are all like sick chickens, the feeding and caring costs more than they are worth at the end if they are saved.

For the apiary that is to be wintered out of doors there should be a windbreak on the north and the east side in New England, but farther west on the north and west sides, or, in brief, against the winds most apt to be cold. An evergreen hedge makes a good and ornamental protection, but we do not think it any better in any respect but good looks than a board fence about four feet high.

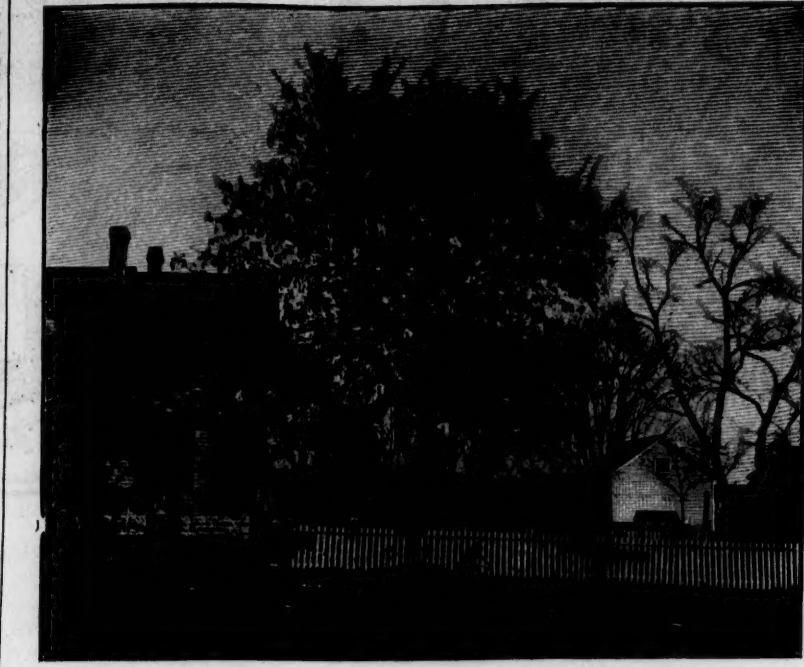
A Rochester correspondent of the New York Sun says that because of the early rains the worker bees killed the drones much earlier than usual this year, because they were gathering but little honey, and they were not willing to support idlers with the stores they provided. In some cases they hustled the queen out of the hive much earlier than she usually takes her flight to meet the drones, which is during the hot weather of mid-August, or even in September. If she would not go out, as some would not, they found when they did go that there were no drones living to meet them, and they returned to the hive to deposit eggs which would produce only drones. If this is true, such colonies must perish next winter. But we are not convinced that such a condition can exist, or rather we are confident that the writer is drawing upon imagination rather than facts. When the queen bee leaves the colony in May, she leaves a virgin queen that soon takes her flight to meet the drone, and as soon as this is done she is ready to begin laying fertile eggs. We doubt if any queens delay their flight until August or September, unless it may be those that sent out swarms in July, that the old hymn said were "not worth a fly," and those in August that were "not worth a cuss." Modern methods of supplying comb or foundation sheets to the late swarms has given them some value, because by fall feeding they can be brought up to fairly strong colonies before winter, but it is not usual for the workers to begin to kill the drones until the queen cells are no longer in the hive. We have not had an opportunity of watching the bees this year, and if we had we might not have noticed any such phenomena as the correspondent of the Sun describes, because we should not have been looking for it. If he says he knows it, his testimony should have more weight than ours when we say we doubt it, but we will wait until we receive corroborative evidence from other sources before we accept his statements as correct.

When it is found that a hive is being robbed it may prevent it if the entrance to the hive is made smaller, that the bees inside can more easily defend it, or a more effective way is to cover the hive with a blanket for a day at least so that none can go out or in. But as soon as the robbing is checked examine the colony to see if it has a good queen. It is the queenless colony, that is too weak in numbers to properly defend its stores, that is in danger of being robbed, and in some cases it occurs when the queen, though living, is not a prolific one. But if robbing once begins and gets well under way the robber bees are liable to attack any hive, and if they don't succeed in robbing it, they will have a battle which will reduce the number in the robber colony as well as the one attacked. It has been suggested that if one can find the cause that is doing the robbing, they may be checked by feeding them, but we fear that when their supply of syrup was cut off they would be only too ready to begin their old method of obtaining a supply from the labor of others, unless winter set in to stop them.

We think it has been decided by the courts that one whose hives are robbed by bees from another person's apiary has no remedy in law, but he may take such measures to defend his own property as seem necessary. Also that one who suffers damage by going himself or hiring his horse too near beehives has no claim for damages from the stings of the bees, unless the owner calls him there maliciously.

## Improvement of Pastures.

In its crop report for September the Massachusetts State Board of Agriculture publishes an article on "Improvement of



A FRUITING (FEMALE) BOX-ELDER TREE IN DECEMBER.

Pastures," by Prof. J. W. Sanborn of Gilmanston, N. H., formerly director of the Missouri and Utah agricultural experiment stations.

In this article Professor Sanborn says in part: The older members of a generation of farmers now passing away tell us that New England pastures have greatly deteriorated in their day. At present on the average pasture by dint of hard work stock may make a short growth, and on the better class of pastures a low grade of beef. Three or fourfold the area is required that should be fitly pasture to a fattening steer, while the herbage is neither as palatable nor as nutritious as it should be. Weeds and brakes divide the annual supply of plant food and shade the grass. Weeds, bushes and change in character of grasses tells of a century's flow of nitrogen, lime and phosphoric acid from the soil, and in their character tell us, too, that these have not gone in proportionate amounts.

This drain of phosphates and change of herbage has left so little of easily available and palatable foods that animals will not eat excess food enough for a growth yielding economic results. Growth has been reduced per season to from 150 to 175 pounds, and on the best pastures two hundred pounds. We should be better off without the pastures, as dependence upon them compels the sale of a lower grade of beef than can possibly yield a profit, and compels us to winter stock once or twice too often.

In the improvement of pastures the work of restricting them to grass, as against bushes and weeds, must be the initial step. When the soil is handled for grass, and the bushes out a few times in August and the weeds kept back, grass will gain a hold and retain it. Seeding pastures anew and working in the seed is a temporizing expedient. Seed is not fertility can it replace it. Fertility and fertility of the right sort must characterize a good soil. Plant food may be applied in yard manure, and with new and right seed will give in good time a mat of pasture grass, but our New England farmers have not yard manure to be used for this purpose.

Grain feeding in pastures, with partial reference to improving them, is a worthy practice, though a slow one for our times and necessities. It betters the condition of pastures and moves in the right direction. The application of chemical fertilizers may be, however, our main reliance for the improving of our New England pastures. The quantity required is not large after the first good growth is secured. The application of thirty-three pounds of chemicals, costing not more than fifty-five or sixty cents, would supply the loss to the soil in the elements of plant food carried off in two thousand pounds of milk. But no practical man would begin their use with but thirty-three pounds of chemicals annually. Name five hundred pounds annually in the July report, with an annual reduction thereafter. From 125 to 150 pounds annually would give marked results; would double the grazing value of an acre in a brief period.

Tankage supplemented by ashes would make an advantageous fertilizer. Bone meal is an old and tried pasture specific. Chemicals may be better adapted to pasture fertilization than yard manure, because any proportion of nitrogen, phosphoric acid or potash may be used. An eight-year rotation, assigning one year for pasture, is my own system, as I am pressing all pasture ground and woodland possible into fields. By it more cows can be kept than by the pasture system under chemical fertilization. Authorities contend that a mixed grass sward in a pasture yields more and better grass than a single grass can, and the point is well taken, yet may be given an exaggerated importance.

It costs more to seed mixed grasses by a heavy margin. I made in Utah a trial of nine varieties of grass and clover, and all of these mixed. Of the nine varieties tried, orchard grass, tall oat grass, meadow fescue, timothy and lucerne gave the best results, while a mixture of all combined did better than any, thus justifying popular views. One sowing down for pasture to remain a few years should not hesitate to use mixtures. Red top and Rhode Island bent grass may be added to the varieties mentioned above, for New England soils, especially if a little moist. In reseeding a rough pasture a spiked toothed or smoothing harrow is usually used to work in the seed when the soil is moist, or in wet times in early fall.

I would clear all pasture ground incapable of tillage of weeds and bushes, sow the ground to mixed varieties of grass seed and chemicals, and, at least for a time, partly barri feed. All land suitable for tillage should be taken into rotation with fields and made very productive. Other less effective systems may be adopted, but it is imperative that some system of improvement that is comparatively quick in action be taken up at once.

This bulletin may be secured on application to Hon. J. W. Stockwell, Secretary State Board of Agriculture, State House, Boston, Mass., and those interested may also have their names placed on the mailing list for future reports.

## The Good People are Doing.

The lift to be gotten from an afternoon in that department of the Mechanics Fair where the various philanthropic enterprises of this and neighboring cities are shown, by means of models, plans and pictures, is worth four times the price of admission to the big exhibition of which this is but a part. Some of us, of course, keep in touch,

for one reason or another, with these various good works as they are projected and carried into successful execution, but the majority of the people will have no idea before visiting this branch of the fair of the length and breadth of successful plans for making life better and happier for the masses.

There is the day nursery in operation, for instance. Almost everybody has heard of day nurseries, and not a few of us have subscribed in one way or another to their support. But did you ever have the slightest idea before seeing those little children in that pleasant room at the Fair of the tremendous difference a day nursery in the neighborhood must make in the life of a little one whose mother goes out to labor for the family bread? Under the old system the child would have been left with some neighbor already overburdened with boys and girls of her own, and would have dragged wearily through the dreary hours between the time mother went to work, and the time she would reach him again at night. In a nursery there are other happy children to play with, toys to make life bright, and, best of all, sweet and devoted women attendants to play music, lead games and "mother" those under their charge.

"Why, we could have left the children here," a pleasant-faced matron remarked to her husband, as the two looked in at the door of the room now used as a nursery. "Those youngsters look and seem so happy I've a mind to go home and bring ours to join them," her husband replied, with an undertone of earnestness in his jest.

Then there is the exhibit of that admirable club, up in the South End, which is named after Louisa Alcott, presumably because the girls who frequent the rooms become "little women" by means of the home instruction they there obtain. This club teaches even tiny girls to love pretty householding, by giving them a chance to do it. You must have noticed that every girl who plays dolls sets a table for the entertainment of her "children" and washes and irons the clothes the "babies" have soiled. At the Louisa Alcott Club cultivated young women from Brookline teach the little girls to play the nicest ways of keeping house. Consequently, at the Fair one sees a doll's table, which has been set by the children as an attractive home tea-table might be, and all the implements of a play kitchen neatly disposed as they should be in an orderly real kitchen.

Again, there is the corner given over to the ethics committee of the Women's Educational and Industrial Union, a group of women who are doing all that in them lies to better prospects for the adult blind here in Massachusetts by showing that the blind could and would do many things self-supporting if they were provided by the State with the instruction they now lack.

And these are only a few of the fruits of good works here to be seen, just chance samples of the great and noble reforms being wrought for those who by poverty, illness, misfortune or wrong social condition are now "submerged." To visit this department makes one believe more than ever that brotherhood of mankind will eventually be realized by means of just such unselfish labor for those unable to help themselves as is here reflected.

## The Care of Orchards.

Under this head many things are included, among which and one of the most important is the condition and the form of the tree top; the latter depends chiefly upon how the trimming is done, and the time to do this is the fall, winter and early spring. A tree top may be made to grow high up or low down—in circular form, oblong or fan shaped, according to the fancy of the owner or the requirements of surrounding circumstances, but the internal condition of the growing and fruiting top will depend almost entirely upon the pruning of each and every limb where there is a superabundance of wood or thickets, all of which should be thoroughly thinned out, and where there is a surplus of peduncles or fruit stems those should be alternately cut out, which will obviate to a great extent the thinning out of the growing fruit, and would also economize the fertilization of the tree.

If pruning be thoroughly done, the great waste of fertilization, which otherwise would be saved in the growth of the permanent wood of the tree and in the production of large-sized, well-matured, perfect fruit.

From some of the older trees there are cases where it is necessary to remove large limbs; those should be cut off close to and on a line with the trunk of the tree, and to save the stump from decay, it is a good proceeding to cover the stump with a coat of melted grafting wax, and roll a piece of strong, coarse cloth solidly into the wax, paint the cloth over to match the color of the bark of the tree, and that will remain there for many years, protecting the wood from decay, shutting out all insects, and retaining the beauty and soundness of the tree.

In some of the older apple orchards there are trees having large holes in them, caused by bad treatment or neglect in their younger age. These mar the beauty of the trees, accelerate their decay, and make one of the greatest breeding harbors for many kinds of injurious insects to occupy. An easy, cheap and effective remedy is to clean out the holes as far in as convenient, trim the wood around the face of the hole and fill it with coal ashes, well tamped down, up to within about a half inch of the outside, and fill out with Portland cement mortar. This will destroy all insects within and shut all

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others out. It is also well to scrape off all the loose bark on the trees, as that harbors many insects and partially obstructs the spraying material from its full effect.

Cultivation of Orchards.—This cannot be left out with impunity; some of our best orchardists keep their orchards plowed a large part of the time, occasionally sowing them down to red clover, they do not plow so deep as to seriously disturb the roots of the trees, and do not allow the plow to come within two or three feet of their trunks, but use the spade and the cultivator for the remainder of the work, running the cultivator over the ground several times during the summer and early fall, allowing no grass or weeds to have place there.

Fertilization of Orchards.—That our orchards in New England, in both earlier and later times, as a rule, with very few exceptions, have not been highly fertilized, I trust will be admitted by all, and until within the last thirty years, or about that time, there were causes existing for that state of things, which could not, prior to that time, be easily avoided.

One thing was all our older cultivated lands had become so exhausted of the chief elements of fertilization, especially so of potash, that it was difficult for the farmers of New England to fertilize their other crops as highly as they desired to do; another thing was the market of the world for apples was in its early infancy compared with what its future prospects now are. But the great draft of fertilizing the tree, leaf and fruit call for and now can and must be supplied, or a failure in the crop, greater or less, will ensue.

The three necessary elements of plant growth, potash, phosphoric acid and nitrogen, are now abundant in the market and may be procured at reasonable prices, and while we learn from good authority that by their application with other minor materials, more than five tons of hay and more than six hundred bushels of potatoes may be raised upon an acre of land, may we not reasonably expect that an orchard, whose well-conditioned trees shall well cover an acre of land, will bring forth three hundred barrels of apples in annual crops? If so, shall we care for and fertilize New England orchards, or shall we allow our brethren of the Western States and Canada to take the chief prizes and greater profits.—I. L. Robinson, in Exeter News Letter.

## Butter Market.

Receipts of butter were not as large last week as the week before, but larger than a year ago. The moderate demand had prevented any advance in the prices. With better trade there may come an advance. A circular from the Department of Agriculture says:

"Manufacturers of renovated butter are hereby cautioned not to give misleading advice to dealers as to changing or repacking original packages. Jobbers and all dealers, whether wholesale or retail, should obtain renovated butter from manufacturers in the form desired for sale, and the contents of the packages as received from the factories, undisturbed, except when finally subdivided in the retail trade for delivery to consumers.

In common with all other persons, dealers are amenable to the law which prescribes heavy penalties for altering, defacing, removing or destroying any marks placed upon renovated butter, its wrappings and packages, pursuant to law and regulations. The contents of a manufacturer's package, other than in the form of properly marked prints and rolls, cannot be wholly removed, or greatly disturbed, without the violation of the law.

JAMES WILSON, Secretary.

Sept. 27, 1902.

Another official circular from the same department, dated Sept. 25, addressed "to Manufacturers and Exporters of Renovated Butter," states that "all renovated butter exported from the United States on or after the 12th day of October, 1902, must be inspected and certified by a duly authorized officer of this department."

There are some lots of extra creamery for which the receivers are asking 24 cents, but most is offered at 23 cents, and Western ask tubs at 22 to 23 cents. Best marks Eastern, with Northern and Western firsts are 21 to 22 cents. Fair to good Eastern 19 to 21 cents, second 19 to 20 cents. Boxes and prints selling fairly well at 23 to 24 cents for extra Northern creamery, 21 to 22 cents for extra dairy, and common to good 18 to 20 cents. Dairy in tubs Vermont extra 21 cents. New York 20 cents, first 18 to 19 cents, seconds 14 to 16 cents. Imitation creamery steady 18 cents for best, 17 to 17½ for firsts, and choice ladies. Renovated in demand at 19 cents for choice, and 17 to 18 cents for common to good.

The receipts of butter at Boston for the week ending Oct. 4 were 22,116 tubs and 30,384 boxes, a total weight of 1,170,934 pounds, against 1,239,011 pounds for the previous week and 973,990 pounds for the corresponding week of last year. Included in the receipts for the previous week are 42,900 pounds for export.

There were no exports of butter during the past week, while a year ago there was 3100 pounds exported. From New York the exports were 290 tubs renovated butter. Montreal shipped 6700 packages.

The Quincy Market Cold Storage Company reports a stock of 229,655 packages, against 179,530 packages at the same time last year. The Eastern Cold Storage Company reports 46,813 packages, against 26,059 packages the same time last year. Thus the holdings of the two companies amounted to 276,468 packages, against 205,688 packages last year, an increase of 61,780 packages over last year. There was a reduction of 1900 tubs the past week, against a reduction of 4200 packages for the corresponding week a year ago.

## Literature.

A remarkably strong story by J. Breckenridge Ellis is announced for early publication by George W. Jacobs & Co., entitled "Adnan: A Tale of the Time of Christ." Mr. Ellis is already known to the public as the author of "Garcilaso," "The Dread and Fear of Kings," etc., but "Adnan" is decidedly his best work, the conception of the story, the working out of the plot and the literary style being of a very high order. It is a story of revenge—of revenge changed into an unlimited capacity for loving service. Adnan has an enemy, an enemy who has wronged him shamefully, and his whole nature centres upon one thought, one desire—an intense longing for vengeance. The determination to satisfy this becomes in his mind the sole reason for his existence, and forces even now for the beautiful Miriam—deep though it is—into a secondary place. Yet strong as is this thirst for revenge, it is suddenly checked and strangely turned aside, and in its place comes a wonderful new spirit of forgiveness, a desire for loving service, that appears a very strong contrast to his former feeling toward his enemy. Adnan had "been with Jesus and learned of Him," and in all his after life we see the subtle influence of the teachings of the lowly Nazarene. "Adnan" is a book with a future.

In view of the announced determination of the dealers to make feathers "take an extraordinary part in the coming season's millinery," Bird-Lore (Macmillan Company), the official organ of the Audubon societies, sounds a rally call and urges a more strenuous warfare against the destroyers of the feathered race. The attention given to the Audubon societies by the millinery trade journals apparently shows that the efforts of the bird-lovers are not without their influence on the dealer's offers. As a substitute for birds one dealer offers fish, "the latest Parisian creation."

The Lothrop Publishing Company of Boston will bring out two strong novels on Oct. 11, "Eagle Blood," by James Creelman, and "Richard Gordon," by Alexander Black. Mr. Creelman's story is full of action, excitement, and a clever handling of an international plot. The hero is a titled young Englishman, who comes to America and under an assumed name wins his way to fortune and to the winning of a charming girl, and the deeper suggestion of the story lies in the slow but sure Americanization of this British peer. Alexander Black has written by far his best piece of fiction in the present volume. It is a bold, even daring, handling of the love motive, yet essentially a noble book. The scenes centre in New York and involve pictures of high New York social life, political and art circles. Both volumes are handsomely illustrated.

The Lothrop Publishing Company of Boston will bring out the middle of the month, what they consider a very strong piece of fiction, "The Whirlwind," by Rupert Hughes. It is a study of the life history of a salient character, beginning with his boyhood in the country before the war, and carrying him through a brilliant war record, and a subsequent equally brilliant political career, up to his call giving for the Presidency. The delineation of the country life, and the picture of the dramatic episodes of the civil war, are very ably done, and a striking love story runs through the book. The title is a fitting description of the ups and downs, yet irresistible progress, of the hero's life.

A good many critics have commented with curiosity on the title of Cyrus Townsend Brady's forthcoming new book, "Women with the Ship," published by J. B. Lippincott Company, Philadelphia. There is a sentimental value attaching to this title that concerns the novel, which fills the larger portion of the book, and Mr. Brady has in that story revealed a new and delightful understanding of impulses and affections. The book is very fortunate in having for its illustrations no less than five of the best-known Americans—Christy, Leyendecker, Glackens, Parkhurst and Crawford. Mr. Brady has spent the summer in the Adirondacks, and upon his return will take up his residence in Brooklyn.

There is first-rate entertainment for those who like adventure and intrigue in the novel "The Story of a Scout," John Finnemore's new book, published by J. B. Lippincott Company, Philadelphia. He it was who wrote "The Red Men of the Dusk" and "The Lover Fugitive," but his new yarn is far and away the best thing he has done. The scene is laid on the French and Spanish border during the days of Wellington's campaign, and while the story does not border on psychological problems it furnishes just the sort of reading for one who wants recreation and something to stir the blood. There are eight spirited illustrations.

Early this month will be published by the Macmillan Company, New York, "Stories in Stone from the Roman Forum," by Isabel Lovell. The author's design is to increase the pleasure of the traveler, and to provide information in a ready way. The human aspect of the Forum is brought out in distinction from its archaeological interest. Each building, monument and ruin is illustrated, described, and its history told accurately and in an entertaining manner. The whole treatment, however, is subordinated to the action of the men who have played great parts in the Forum. What they did, how they acted, and what they believed, their manners and customs, history and legends are dwelt upon. The period covered is from the remotest times to the expulsion of paganism.

Fortunately for the United States, we are represented abroad by other persons as well as by our horse jockeys. Even the statement that several of them are to be escorted, politely, of course, to the French frontier is unlikely to arouse any marked international unpleasantness.

The Fram is back, and Captain Sverdrup seems to have been given a much more royal welcome than greeted our own Lieutenant Perry. But then Sweden has royalty and no coal strike, while we have a coal strike and no royalty.

A dog in the town of Cologne Absent-mindedly snapped at a beggar, But the misguided brute Had just grabbed his own foot, So the bone that he snapped was his own.

Few of the troubles that man finds Upon this sad old earth would last If people could but make up their minds Before the time to speak is past. The milk of human kindness Is scarce, and it would seem That even what we find is not Extremely rich with cream.

Here lies one who for fifty years Appreciated nature's bounty; For, though a little man, he was The biggest eater in the county.

—Chicago Tribune.



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## Poultry.

### Practical Poultry Points.

We frequently see in our exchanges complaints about fowl pulling and feasting feathers from other fowl. We have not had any trouble of that kind since we were a boy, with but little knowledge about the proper care of fowl. When we decided that those which were kept confined in a yard needed both meat and salt at least once a day, we had no more trouble of that kind. When others have had it, we have always advised the giving at once of as much fat salt pork, cut up into small pieces, as they would eat, and after that seeing that their mash was salted every day, about a teaspoonful to the quart, and that beef scraps or desiccated fish was added to it, or kept where they could pick at it as they please, at the same time trying to free them from all lice pests. We have never known it to fail to cure the habit, or the egg-eating habit, which is another one that we never had in our flocks. There may be some hens that have become so addicted to either as not to be stopped in this way, but if they can be caught and separated from the others by confinement in small crops, and fed as directed, they will be cured in two or three weeks, or they may be fed for fattening and killed. It is the salt and meat flavor in the drop of blood in the end of the quill that they are after.

We never attempted to raise geese, partly because we did not like them. We have a vivid recollection of the drubbing an old gander gave us more than fifty years ago because we approached too near the nest where his mate was sitting. It was worse than the schoolmaster gave us at school, and he did not spare us what he thought we had deserved. Yet we doubt if any kind of poultry can be made much more profitable than a flock of geese in a pasture where they can get abundance of good pasture and clean water enough to drink. Water to swim in is not a necessity for the goose, at least for the large breeds, more than it is for the Pekin duck or for our anser. When they have grown enough they require but little grain, excepting for the goslings that are to be fattened. They are not subject to lice or mites, and to few diseases, the enlarged liver caused by overfeeding being the most frequent. They do not require a large pasture, but give them one large enough to furnish them plenty of grass and they will keep it fertile.

It is not time yet to restrict the turkeys from ranging the fields, as they do not bear confinement well, and about four or five weeks before they are to be marketed is all that is needed to fit them on an exclusive grain diet. But the myth of insects is now running short in the fields, and the grass has been killed by frost in the fields, and they have been by the time this reaches our readers, and it is time to make a specialty of grain feed. We will suppose that they have had a little grain every night to teach them to come home to roost, but at the beginning of October they will need a morning feed as much, to prevent them from traveling too far and too fast in their search for insects that the cold nights have killed. They should have this morning feed early, or as soon as they fly down from the places where they have roosted, at first, at least, to learn them to wait for it before going ahead, and later on because they should not travel through the grass when it is wet and cold with dew and fall rains. They will soon learn to start out later, wander less, and come home earlier, depending upon the home supply of food. Then they may be limited in their range, but not too closely. A party was used to fatten turkeys of Canadian-bred turkeys, and sell them as Rhode Island-fattened turkeys, told us that one thousand would do better on five acres than one hundred would on one acre. The larger range gives them a sense of freedom. With regular feeds of corn and warm mash they will seldom fly over a five or six foot fence at this season, excepting the late hatches, which should be saved for the Christmas market or even later, and which should not be kept with the larger ones.

To reach the Thanksgiving trade, most of the turkeys should be killed the previous week, as more are sold at good prices on Monday and Tuesday than on Wednesday, when buyers are looking for possible bargains in an overstocked market. They need to be well cooked out by one night at least of exposure to the air at a temperature not above 60° nor below 40°, before they are packed for shipment, or placed in a refrigerator or ice-cooled atmosphere. Send none to market that are not well fattened. The price seldom declines on good stock from the week before Thanksgiving until the first of March, and even then it is as likely to increase as decrease. This year we have not seen a time when we could buy a good turkey since January at as low a price as we bought at Thanksgiving time, so do not fear loss by waiting. If they have a good appetite the gain will well repay the corn and corn meal given them, and the more they eat the greater the profit is likely to be on them. We care not what the prices of grain may be if they are fed properly. And the

fattening turkey will stand four or five weeks of an exclusive corn ration, although it would do better on a morning feed of cornmeal and bran mash, equal parts, with a large handful of dried beef scraps in every quart of mash. If not experienced in fitting turkeys for market, send to some poultry dealer, who will usually be glad to send a circular with full directions for dressing and packing. They send these out because they like to handle stock that sells readily at good prices, and do not like that which "is better than it looks," but must be sold low. And this is equally true of the commission dealers and those who buy outright.

When one wants male birds to grade up a lot of mixed fowl or pullets, it is not necessary or even wise to get the best and pay fancy prices for them. Get pure-bred males in every case, and pay as much as your means will allow, but at this season of the year many of the breeders of fancy stock will have birds that are not likely to fit for exhibition, or even to sell to those who want to breed show birds, and they are as good for grading up a flock as the best. A feather on the leg of a Plymouth Rock would disqualify it as a show bird, but would not hurt it for crossing with the feather-legged Brahmas or Cochins. So with many other feather faults, but do not take chances with a deformed bird, vulture-hooked, crooked-breasted, or wry-tailed. These faults show worse after the poultry is dressed.

## Horticultural.

### Orchard and Garden.

If we had a young orchard we would not grow anything in it but peas, beans, small fruits or root crops, for which we would supply manure enough for both hoes and the trees. And we would abandon these to a great extent when the trees came to bearing, substituting such crops as could be sown in the summer or fall and plowed under in the spring to enrich the soil, with an occasional rotation back to the root or berry crop with plenty of manure. We would keep the ground clean and frequently cultivated during the summer and early fall, and we would do more than this. We would prevent overbearing in any one year by removing about two-thirds of the number of fruits that formed before they were larger than filberts. This is a very safe rule from the time the young tree sets its first dozen of apples until at maturity it may have a dozen barrels or more. It would yield about as much merchantable fruit from the lesser number, and their larger size would place them at better prices in any market, or sell them when undersized fruit would not sell. There would be no need of spraying the trees healthy by spraying against insects and diseases. We would so train the trees that there should be but little necessity to cut a limb much larger than a lead pencil.

There were certain sections of New England and some orchards in other sections that produced good crops of apples last year. Many of them have but few or none this year. Most orchardists are content with this condition, because they have the idea that there must be one full year and one lean year alternately, and if their full year chances to come when other orchards are producing but little, they are fortunate to have apples when the prices are high. But that condition prevails less than it did a few years ago. The many large orchards that have been planted on the fertile soils of our middle Western States, seem scarcely willing to be governed by this rule of alternate bearing years, particularly some of the new varieties, and will begin to yield crops as soon as they are old enough, and will do so every year so long as the soils furnish them plant food enough, and the insects and fungous diseases are kept out. Now, it may not be easy to overcome this alternate tendency in an old orchard, but we think there is little need of allowing a new orchard to acquire and maintain this habit. The fact that the Western orchards on strong soil bear every year suggests that we should keep the soil in our orchards fertile, by manuring them after they come to bearing, instead of the too common custom of robbing the trees of their plant food by growing grass, or what is worse, the small grains among them. In saying this we do not refer to the growing of rye among them, but to the plowing under in the spring, and we approve of the growing of peas and beans, if after the pods are picked off the vines are turned under while yet green. Clover we do not like as well for a cover crop in the orchard, as it requires longer to grow, does not cover the ground as well, and when it is at its most valuable condition for plowing under, which is in the fall, it supplies nitrogen just when the trees do not need it, and stimulates the growth of wood that is liable to winter killing.

We know that in saying this we are going against the opinions of many who write upon orchard culture, but we are willing to do that, and wish to see if they can

advance any strong arguments in favor of clover as a cover crop in an orchard.

The Maine Farmer says that "there is every evidence that No. 1 Maine winter apples will command reasonably satisfactory prices." It also quotes a letter from a Chicago firm which says:

"Are getting plenty of rather ordinary fruit, but could use some choice Maine Baldwins and other varieties. Do not want any Ben Davis; are getting too many of them from the West already." As we have never recommended the Ben Davis as the apple for New England, we can scarcely pity those who have them, and find no market for them at home, and but low prices abroad. One need only to watch the quotations in our "Export Apple Trade" to notice that they do not sell at the same rates as Maine Baldwins or many others. We are not as prejudiced as the man who said if he were setting a hundred apple trees ninety-nine of them would be Baldwins. Being pressed to name what variety he would set as the odd tree, he guessed he would put in another Baldwin, but certainly if he were setting a hundred trees in New England there should be nearly ninety of them Baldwins, and the others would be more for fall fruit for home use than for commercial purposes. And the man who sent us a Ben Davis we should regard as kindly as we would the man who introduced a skunk into our poultry yard, or a razor-backed boar among our breeding sows.

Many people have wondered why spring trees, with which much care had been taken, should live and thrive the first season apparently as the best, and the next season should fall to put forth a leaf, or after a scanty growth should drop their leaves and die, and yet the solution is very natural. The growth of wood and foliage the first season is from the food that was stored up in the roots, but the tree does not put out new feeding roots enough to sustain such a growth another season. If limbs and foliage are reduced the first year, more energy will be given to the root growth, as there will be less loss of moisture through the transpiration of the leaves, and the second year the tree may be permitted to make some new wood and to produce more foliage. While this is more true of some of the hard-wood shade trees than of the fruit trees, it is to some extent true of the latter, and we prefer fall to spring setting, other things being equal, because we can induce a good root growth the next spring. This is not to be done by the application of nitrogenous manures, or stable manure especially, nor by liberal watering after they are set. Both defeat the desired result by stimulating growth of wood and foliage, the wood often being so rank in growth and so tender as to be winter killed, but is best done by having the soil mellow and moderately rich with the manure used for previous crops, to tempt the roots out beyond the branches, and the keeping of the wood-growth limited by taking out of all the superfluous branches and heading in the others.

It is not many years since we first saw the Palmetto asparagus roots advertised, but they sell now as cheaply as the older varieties, and are claimed to have two advantages. They are probably the earliest or first to send up stalks of market size in the spring, and they are said to be not rust proof, but less subject to rust than the others. Those who intend to set plants or sow the seed next spring will do well to try this variety.

### Export Apple Trade.

The export of apples from Boston last week were: 22,097 barrels, of which 21,997 went to Liverpool and forty to London. Same week in 1901, 1385 barrels, in 1900 7654 barrels; total since the season commenced, 82,857 barrels, same time last year 3238 barrels, in 1900, 17,719 barrels. The latest cable dispatch to Chester R. Lawrence, Faneuil Hall Market, says: "There is a strong demand. Hubbardston \$2.40 to \$3.00, Kings \$4.32 to \$5.76."

### Domestic and Foreign Fruit.

Apples are in liberal supply. Receipts last week were 36,990 barrels; same week last year, 11,689 barrels. Export demand good, which helps keep prices up. Twenty thousand and thirty-seven barrels shipped last week; same week in 1901, 1385 barrels; same week in 1900, 7654 barrels. Gravenstein \$2.50 to \$3 a barrel. King \$2 to \$2.50. Show and Wealthy \$1.75 to \$2.50. Maine Harvey \$2 to \$2.25. Twenty Ounce, Greening and Pound Sweet \$1.75 to \$2, Hubbardston \$1.50 to \$1.75, Juneating and Colvert \$1.50 to \$1.75, Pippins and Porters \$1.25 to \$1.75, common green \$1 to \$1.25, in bushel boxes, red at 50 to 60 cents and green cooking 35 to 50 cents. Pears in good supply, with light demand. Seckel at \$1.50 to \$2.50 a bushel, Bartlett \$1.50 to \$2, Bosc \$2, Anjou \$1.25 to \$1.50 and Sheldon 75 cents to \$1.50. Peaches nearly cleaned up and low. Natives 35 to 75 cents a basket, Connecticut 40 to 60 cents, Michigan bushel baskets \$1 to \$1.50, Colorado Elberta \$1.15 to \$1.20 a basket, California Solway 50 to 80 cents, and a few from Georgia 40 to 65 cents. Plums in

eight-pound baskets, Damson 40 to 50 cents, large eating varieties 25 to 35 cents and prunes 40 to 60 cents. Quinces in small supply at \$1.50 to \$2 a box.

Grapes in light supply. Receipts were 645 barrels foreign, 186,046 baskets, 8300 cases domestic. Small baskets Delaware 17 to 18 cents, Niagara 15 to 17 cents, Salem 13 cents, Martha 10 to 12 cents, Concord 8 to 11 cents, California Tokay, four-basket crates \$1.75 to \$2.50, Muscat 80 cents to \$2.40, Cape Cod cranberries \$4.50 to \$5.50 a barrel, good to fancy boxes \$1.50 to \$1.75. Muskmelons, Colorado Rocky Ford \$2.75 to \$3 for the standard crate, \$2.50 for small crate. Pineapples in fair supply. Florida smooth Cayenne \$1.50 to \$2.50 a case. Oranges are in light supply. California Late Valencia No. 2, \$6.50 to \$7, 176 and 200 counts, \$5.50 to \$6.50; 150 counts, \$5; 216 counts, \$4.25 to \$4.50, and 200 counts, \$3.75 to \$4; Sorrento, 180 to 200, \$3.50 to \$4.50; choice to fancy, Jamaica, barrels \$5.50 to \$6.50; boxes 176 and 200 counts, \$2.50 to \$3.50. Messina and Palermo lemons, 300 counts choice, \$4 to \$4.50; fancy \$5 to \$5.50; Maori lemons choice, \$4.50 to \$5; fancy \$5; Messina and Palermo, 300 counts choice \$3.50; common \$3 to \$3.25; 300 counts \$2.50, 420 to 500 counts, \$2.50; new fruit, 12 to 13 cents and dates from cold storage, 4 cents. A little Jamaica grape fruit at \$5 to \$6.

### Vegetables in Boston Market.

The vegetable trade is quite good, with prices a little higher than last week. Beets and carrots are 40 to 50 cents a box, parsnips 75 to 85 cents, flat turnips 50 to 65 cents, and yellow turnips \$1 to \$1.25 a barrel. Native onions 75 to 90 cents a bushel, or \$2 to \$2.50 a barrel. Spanish \$1.25 for short crates and \$2.75 for long crates. Leek 40 to 50 cents a dozen bunches, and chives \$1. Radishes 25 to 40 cents a box. Salsify \$1 to \$1.25 a dozen, and celery from 60 cents for early to \$1 for Boston Market. House cucumbers from \$6 to \$8 a box. Peppers 75 cents a basket. Tomatoes from 60 cents a box for fair up to \$1.25 for fancy. Green tomatoes 50 to 60 cents a box. Egg plant from \$1 to \$1.25 a box. Squash, summer white 50 to 60 cents a dozen, marrow \$1 to \$1.10 a barrel, Hubbard \$20 a ton, Turban and Hay State \$25. Mushrooms from 50 cents to \$1 a pound.

Cabbages are steady at 60 to 75 cents a barrel, \$3 to \$4 per hundred. Cauliflowers from 60 cents to \$1.20 a dozen, as to size, sprouts 20 to 25 cents a quart, lettuce 40 to 50 cents a box, spinach 15 to 25 cents and parsley 20 to 25 cents a box, romaine 50 cents a dozen, escarole and chicory 30 to 40 cents a dozen. String beans higher at \$1.25 to \$1.50, shellbeans \$1.25, Lima beans \$1.25 to \$1.50, mint 25 cents a dozen and water-cress 35 cents.

Potatoes in larger supply and weaker. New York round white 45 to 50 cents. Arrostook Hebrons 45 to 48 cents. Green Mountain 50 to 53 cents. Sweet potatoes in small demand. Southern yellow \$1.50 to \$1.75 a barrel. Jersey in bulk \$2, double-head barrels \$2.25.

### The Hay Trade.

Owing to rainy weather, but little hay has been moving, and full last week's prices are ruling, with choice and No. 1 held firm. Lower grades accumulate, and their prices weaken. Many take them instead of the better grades, which may be all that now present a general advance of prime and No. 1. Clover and clover mixed are in good demand, and if only sound, well-balanced, merchantable lots were sent, there would be a good market for them, but where the quality is so variable that prices range about \$4 apart between ordinary and best, buyers are inclined to examine closely before investing. The Government makes six classifications of hay for forage: First wild, salt and prairie grasses, second millets and Hungarian grass, third alfalfa, fourth clover, fifth other tame grasses, and sixth grains out green for hay. Their estimate of the hay crop this year is for New England 3,690,000 acres, 4,680,000 tons; New York 5,550,000 acres, 7,490,000 tons; Pennsylvania 3,300,000 acres, 4,200,000 tons; Texas 980,000 acres, 1,235,000 tons; Arkansas 195,000 acres, 283,000 tons; Tennessee 500,000 acres, 861,000 tons; West Virginia 630,000 acres, 882,000 tons; Kentucky 715,000 acres, 922,000 tons; Ohio 3,125,000 acres, 3,968,000 tons; Michigan 2,275,000 acres, 3,688,000 tons; Indiana 2,109,000 acres, 2,916,000 tons; Illinois 3,350,000 acres, 4,456,000 tons; Wisconsin 2,250,000 acres, 2,883,000 tons; Iowa 4,305,000 acres, 5,087,000 tons; Missouri 3,500,000 acres, 5,215,000 tons; Kansas 3,750,000 acres, 6,000,000 tons; Nebraska 2,500,000 acres, 3,975,000 tons; North Dakota 1,450,000 acres, 2,175,000 tons; South Dakota 3,000,000 acres, 3,600,000 tons; California 2,400,000 acres, 3,648,000 tons; Oregon 775,000 acres, 1,472,000 tons; Washington 525,000 acres, 1,181,000 tons; Oklahoma 725,000 acres, 1,087,000 tons. Other States 5,000,000 acres, 6,500,000 tons.

This then is a crop of 88,973,000 tons on 60,015,000 acres, nearly a ton and a half (1.48) per acre. The yield last year was 1.11 tons per acre; in 1900, 1.17 tons; and in 1899, 1.38 tons. The heaviest yield per acre this year was 2½ tons per acre in Washington, while South Dakota had only 1.20 tons

and Ohio 1½ tons. Of other States named Oregon had 1.90 tons, Kansas 1.84 tons, Iowa 1.76 tons, Wisconsin 1.73 tons, Minnesota 1.73 tons, Michigan 1.62 tons, Nebraska 1.50 tons, California 1.52 tons, North Dakota and Oklahoma 1½ tons per acre each, and all others less than 1½ tons. It may be noticed that Iowa has more acres in hay than any other State, and produces more than any other, though only fourth in yield per acre.

### Boston Fish Market.

Fresh fish is scarce, and with good demand the prices have gone higher. Market cod sell at 4 cents a pound, large 2½, and steak 7 cents. Haddock and flounders are 35 cents, hake 3 cents, pollock and cusk 2½ cents. Tautog steady at 4½ cents, and soup 6 cents. Striped bass are higher at 18 cents, black 10 cents and sea bass 8 cents. Southern fish are scarce. Pompano 22 cents, snappers 18 cents, sheepshead 20 cents, Spanish mackerel 22 cents. Blue fish are 9 cents, common to good 14 to 16 cents. Lake trout 12 cents and sea trout 6 cents. Halibut is 11 cents for white, 9 cents for gray and 10 cents for chicken. Yellow perch 7 cents a pound and white perch 10 cents, with pickerel 12 cents. Eastern salmon is up to 35 cents and Western steady at 14 cents. Eels steady at 10 cents, fresh tongues 9 cents and cheeks 7 cents. Frogs \$1.50 a dozen. Clams in demand at 50 cents a gallon, \$3 a barrel in the shell. Shrimp quiet at \$1 a gallon. Lobsters firm at 17 cents alive and 19 cents boiled. Oysters in demand now at \$1 to \$1.30 a gallon for ordinary Norfolk, \$1.10 to \$1.25 for selected and fresh-opened Stamfords, \$1.35 to \$1.40 for Providence river.

### Poultry and Game.

The poultry market is very dull, but with lighter receipts this week prices are well kept up. Northern and Eastern fresh-killed chickens 18 to 20 cents, broilers 15 to 16 cents, common to good 14 to 16 cents. Fowl steady at 15 cents for choice, 12 to 14 cents for fair to good. Green ducks 15 to 16 cents and geese 16 cents. Pigeons \$1.50 a dozen for choice and 75 cents to \$1.25 for common to good. Choice large squabs \$2 to \$2.50 a dozen. Western live poultry selling fairly well, broilers, 1½ to two pounds each, 14 to 15 cents a pound, 2½ to 3 pounds 12½ to 13 cents, 4 pounds or larger 14 cents. Fowl 13½ to 14 cents for choice and 12½ to 13 cents for common, old roosters 9½ to 10 cents. Fancy spring turkeys 15 to 16 cents, and common to good 12 to 14 cents. Western frozen poultry in light supply. Chickens 14 to 15 cents for choice, 10 to 12 cents for common. Fowl choice 12 to 13 cents, and common 10 to 11½ cents. Turkeys 20 to 21 cents. There is less demand for live poultry. Chickens and fowl 11 to 11½ cents, roosters 7 to 8 cents. Game birds are scarce. Black duck at \$1 a pair, teal 75 cents, small shore birds 50 cents at \$1.50 a dozen, as to size and condition. Some venison coming in, whole deer at 15 cents a pound, saddles 20 to 25 cents.

### New York Market.

Potatoes are in moderate supply and selling well at quotations. Long Island in bulk \$1.02 to \$1.57 a barrel, Jersey round \$1.50 to \$1.62, long \$1.50, Jersey prime in sacks \$1.50 to \$1.60, state and Western, 180 pounds, \$1.50 to \$1.75. Sweet potatoes in light supply and firmer. Southern Jersey \$2 to \$2.25 a barrel, Southern yellow \$1.50 to \$1.60. Onions in small supply, and good stock in demand. Connecticut yellow \$2 to \$2.50 a barrel, white \$1.50 to \$3, red \$1.75 to \$2, Long Island and Jersey yellow \$2 to \$2.25, red \$1.75 to \$2. Orange County white 75 cents to \$1.50 a barrel, yellow \$1.75 to \$2 a sack, red \$1.50 to \$2. White pickling onions \$5 to \$6 a barrel, \$1.75 to \$2 a basket. Beets 75 cents to \$1 a hundred bunches and carrots \$1. Celery extra large 35 to 50 cents a dozen, small to medium 10 to 30 cents. Parsnips \$1.25 to \$1.50 a barrel. Squash, summer, 50 to 75 cents, marrow 75 to 90 cents, Hubbard \$1, pumpkins 50 to 75 cents. Russia turnips, Canada, 80 to 90 cents a barrel, Jersey 65 to 75 cents, white \$1 to \$1.50. Cauliflower plenty at \$2 to \$3 a hundred. Cauliflower prime \$1.25 to \$2 a barrel, poor to good 20 cents to \$1. Brussels sprouts 4 to 10 cents a quart. Lettuce, western New York 15 to 30 cents a dozen, Boston and

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Jersey 10 to 20 cents. Cucumbers, Shelter Island \$2 to \$4.50 a barrel, State \$2 to \$3.50. Pickling sizes, Rockland County \$2 to \$4 a thousand, and State \$2.50 to \$3.50. Corn, Hackensack 75 cents to \$1 a hundred ears, other Jersey 50 to 75 cents. Egg plant 60 to 75 cents a barrel, Jersey peppers, green 50 to 75 cents, red \$1 to \$1.25. Jersey tomatoes 20 to 60 cents a box. Southern peas \$1 to \$1.50 a basket. String beans 30 cents to \$1. Lima beans, potato 50 to 75 cents, flat 25 to 50 cents a bag.

Apple market is a little dull and weak. Fancy red table varieties \$2.25 to \$3 a barrel, King \$2 to \$2.50, Gravenstein, Fall and York Pippins \$1.75 to \$2.50, Twenty-ounce \$1.50 to \$2.25, Maiden's Blush \$1.75 to \$2.25, Hubbardston, Baldwin and Greening \$1.50 to \$2. Fair to good double-head barrels \$1 to \$1.50, open head barrels 75 cents to \$1.25. Crabapples \$3.50 to \$4.50 for small yellow and \$2 to \$4 for large red. Fancy pears sell readily, Seckel \$2.50 to \$4.50 a barrel, Bartlett \$2 to \$4, Swan's Orange \$1.50 to \$2, Louise Bonne \$1.25 to \$2, Bosc \$2 to \$2.75, Clairgau \$1.75 to \$2.25, Anjou, Duchess, Sheldon and Kiefer \$1.50 to \$1.75, common cooking \$1 to \$1.50. Peaches in fair supply yet. Michigan, bushel baskets 50 cents to \$1.25. Pine Island fancy 75 cents a basket, poor to prime 30 to 60 cents. Western Maryland 60 to 85 cents. Western New York 40 to 90 cents a basket, carriers fair to fancy \$1.25 to \$2, poor to fair 40 cents to \$1. Up river, 2-basket carrier, 75 cents to \$1.50, baskets 30 to 75 cents. Plums, 8-pound baskets, large table blue 25 to 35 cents, State green the same. Damson and prunes 20 to 35 cents, common blue 20 to 25 cents. Grapes dull. Unpriced cases Delaware 75 cents to \$1.25, Niagara 40 to 85 cents, Worden 30 to 60 cents, Concord 40 to 60 cents, and 75 cents to \$1 for 35-pound case. Western New York pony baskets Delaware 17 to 18 cents, Niagara 12 to 14 cents, large red 8 to 10 cents, black 9 to 10 cents. In trays per hundred pounds Delaware \$3 to \$4, Niagara \$2 to \$2.50, black \$1.25 to \$2. Cape Cod cranberries, fancy dark \$6 a barrel, good to choice \$5.25 to \$5.75, poor to fair \$4 to 5, crates prime to fancy \$1.70 to \$1.90. Rockford (Col.) muskmelons, standard cases \$1 to \$3, small cases \$1 to \$2.

### High-Grade Jersey.

[Subject of Illustration.]

Catherine is a high-grade, seven-eighths Jersey. Dropped Nov. 15, 1893. She had a calf Oct. 5, 1900, and when the picture was taken was due for another Oct. 2, 1901. She gave, when new milk, twenty pounds of milk, daily average, during the month of November, 1900. She is a small cow; approximate weight, 840 pounds. Catherine shows marked milking qualities; responds readily to feed. She is troubled with occasional garget, which developed twice when fed per day a scant quart of gluten together with a scant quart of cottonseed. It affected only one-quarter of her udder and disappeared quickly. Catherine likes to be petted and brushed, but is a little sensitive to carding. Catherine is well disposed towards man. She will keep near the watering-tub for the pleasure of driving more timid cows away. She drinks readily and well, but is afraid of the larger cows, and has to wait too long when with the herd in the yard. She is moderately fond of fine salt. She is a ready feeder upon all ordinary feeds and fodders, and is a large eater. Incomplete averages show excellent results in milk production when Catherine was given 1.2 pounds feed per lb. in her daily ration. It is to be regretted that timely hay, clover hay and in most cases feed flour were fed for too short a period of time—one or two days or so—to ascertain their effect upon the individual milk flow. Their effect, particularly that of feed flour, seemed favorable upon the herd as a whole.—By courtesy Rhode Island Agricultural Society, Kingston, R. I.

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# MASSACHUSETTS PLOUGHMAN

The eagle eye is apparently no part of the club equipment of the Eagle Veteran Firemen of Shetown.

The relief fund is still growing. Lack of fuel seems to have a salutary effect in warming hearts.

Now that a hunter has accidentally blown off his own head, the merry season is fairly on in the Maine woods.

A burglary of several thousand dollars worth of furs suggests the possible combination of a desperate man and an ambitious wife.

Is it possible, and so it would at least appear from the continuance of the nightshirt parade, that the pajama has not reached Bowdoin?

Evidently the old lady in Nova Scotia who threatens the courts with an appeal to the United States has some mixed notions of the Monroe Doctrine.

A passing glance at the opening address of President Flanders at the annual session of the Farmers' National Congress gives one a striking notion of the one kind of "farmer."

Lives there a man with imagination so alive as to think that the President's medical advisers really thought that the President wouldn't review the Grand Army parade?

Advertising columns are justly famous for turning up some conflicting statements. "A young man," to quote a recent example, "strictly temperate, requires situation; will take anything."

We have not yet seen what Mrs. Carrie Nation has to say about Lady Henry Somerset, but most of us have taken considerable pleasure in what Lady Henry has to say about Mrs. Carrie.

Nobody can say that youth ought not to start the winter in the proper spirit if the good advice recently on tap at the various college openings is absorbed even in homopathic doses.

Coal has the right of way at the ports. The Treasury Department has almost authorized inspectors to overlook a ton or so of undeclared fuel hidden in a passenger's personal luggage.

Who so unchivalrous as not to feel a thrill of pleasure at the speedy capture of the miscreant who stole a whole wagon-load of female dresses, waists, stockings and other personal property on its way to be delivered to the respective purchasers.

The retirement of a New York police captain with a fortune of about a million dollars leads one to think that the proper advice for young men some ten or more years ago would have been: Go to New York, young man, and grow up in the force.

Revenues and expenditures of the postal service, according to the latest reports, come nearer balancing each other than ever. In due time, apparently, the service will pay for itself, and then will come the people who think that a two-cent stamp really doesn't carry a large enough load of letter paper.

Those who have no pearls will be comforted by the statement of a contemporary that if you have pearls and wish to keep the color of them you really must wear them all the time. We all know how uneasy lies the head that wears a crown, but how about the nape of the neck that wears a pearl necklace?

The very poor are apparently safe so far as fuel is concerned in Boston; but unless a certain amount of coal is put on sale at moderate prices, the good intentions of philanthropy will fail to reach an appreciable number poor enough to suffer from the high prices, and yet too proud to ask for assistance.

The picture of a fifteen-year-old boy sentenced for murder and bowing politely to the magistrate looks back to the amenities of life as once practiced by Sixteen String Jack, so named for the sixteen ribbons that constituted his claim to a place among the dandies of his period; and polite in proportion to his strings.

The Demon Rum led some six thousand victims into the criminal court during the past year than during the year immediately preceding. The fact is one among several others that show intoxication to be on the decrease, although there is still quite enough left to keep the various elements working against it comfortably busy.

The report comes over seas that a Russian doctor has succeeded in reanimating a heart that has ceased to beat some twenty-four hours previously, and has kept it going for a full hour. The modest application, which the doctor hopes to make of his discovery, namely, to use it as a means of resuscitation in cases of drowning, looks very much as if the seeming miracle had been actually accomplished. Such reports are usually accompanied by the statement that those who can afford to do so will soon be able to live forever.

The old assertion that cattle and sheep require the same amount of food per thousand pounds in weight is said by Prof. C. F. Curtis to have been disproved by experiments at the Iowa station. They found that sheep consumed 29.7 pounds of dry matter for 1000 pounds in weight, and made a daily gain of 3.73 pounds of live weight, when on full feed. The cattle used 19.6 pounds of dry matter, and made a daily gain of 2.14 pounds per 1000 pounds of weight. Thus the sheep ate 48 per cent. more food, but gained 75 per cent. more in weight. This may do for an average calculation, but like all averages, certain breeds, and more especially certain individuals, will vary much from the general average, being influenced by conditions under which they are kept and by their health or digestive powers. The only safe way of deciding these questions is to carefully watch each animal and the results of the feeding.

An exchange says that of the supplies of England ninety-three per cent. of their lard, eighty-nine per cent. of their ham, eighty-four per cent. of their tobacco, eighty-three per cent. of their wheat flour, seventy-four per cent. of their fresh beef and cotton, seventy-two per cent. of their live cattle, seventy per cent. of their Indian

corn and sixty-four per cent. of their bacon came from the United States or through us from Canada. How long then could they exist if a war should prevent us from furnishing their supplies. They might get along without our tobacco, but their mills must stop if three-fourths of their cotton supplies were cut off, and how long could they exist without the supplies of food we send them? It would be a hungry day as well as a cold day soon after we should stop supplying them. But they import about \$15,000,000 worth of oleo a year, or 105,000,000 pounds, of which in 1900 only seventy-five thousand pounds were from the United States, and most of the balance from the Netherlands, France and Germany. In 1900 the Netherlands sent them 97,000,000 pounds, valued at \$11,000,000, about 93 per cent. of their entire consumption. Our new oleo laws are more likely to increase the demand in European trade for oleo than to decrease it, as more efforts will be made to extend its sales there, and the export dairy trade must suffer as a result. But we shall have more butter and better butter to use at home, which is some satisfaction.

The consumption of sugar in the United States previous to 1825, was about eight pounds a year per capita. Between 1840 and 1850 it had increased to sixteen pounds, and before 1870 it reached thirty-two pounds, although during the years of the war and a little later, when we had to pay a dollar for four or five pounds, it was much less. Between 1870 and 1880 it reached forty pounds per capita, between 1880 and 1890 the average was about fifty pounds per capita, rising to sixty-six pounds in 1891 and 68.4 pounds in 1901, averaging from sixty-two to sixty-three pounds a year for each man, woman and child since 1880. Yet the United States produces but about one-fifth of all it uses, including both beet sugar, cane sugar and maple sugar. Yet with the other four-fifths to be purchased, the politicians, at the behest of the Sugar Trust, insist upon a duty on Cuban sugar which obliges that country to sell it for less than the cost of production if they would sell it in the United States, their nearest and best market, as they are our nearest and might be our best source of supply. Remove that duty and Cuban planters and laborers would be in a prosperous condition, able and willing to buy our products, agricultural and manufactured. With it continued sugar production is no longer profitable there, and we must pay for the sugar grown by the cheap labor of Germany, which yet needs to be sustained by the bounty of that Government, or for the coolie-grown product of Hawaii.

## Fall and Winter Lettuce.

Lettuce has become recognized more as a fall, winter and spring crop than a summer, and it is extensively used because of its appearance in the market when most other vegetables are out of season. The South, East and West are engaged in raising lettuce, and it is supplied to the markets from early fall to late spring. There is, indeed, no better paying crop if one can supply fresh, tender lettuce at a season when the market is not glutted, but lettuce must be tender and not coarse. It is necessary that it should grow rapidly from the start. Slow growth makes the leaves coarse and unpalatable. This can best be accomplished by raising the seed in boxes or cold frames, and then by transplanting later to a highly enriched open garden. In the fall, of course, it must be raised almost entirely under glass frames, but as the crop is a quick grower this can be done until very late in the season. It is even possible to raise lettuce in water under glass where sheltering buildings keep out the extreme cold. Seeds of new lettuce can be started in boxes as early as February, and with a little care the crop can be transplanted to frames as early as March. A crop raised at that time and shipped early brings in a large price. The soil in the frames should be made of a compost prepared the summer before of rotted sods, sand and manure. This should be turned over many times during the summer, and then when perfect fine it is ready for the beds. Some Southern growers add to the soil then a little high-grade tobacco fertilizer, which gives plants and seeds a rapid growth. After that the regulation of the sunlight, fresh air and moisture will determine the growth of the plants. They need to be protected from frost, but otherwise they can endure quite a low temperature.

## Churchmen in Convention.

Ever since Wednesday afternoon those who frequent the neighborhood of Copley square have been cheered daily by the sight of hundreds of mainly Episcopalian, wearing each and every one on his coat lapel a bouton with a small red cross. Thus were the delegates to the Convention of St. Andrew's Brotherhood, now going on in this city, distinguished. Red-ribbon badges, also (certainly sufficiently conspicuous against the black clothes worn by most of the men) were to be noted as the delegates passed down Boylston street to their hotels.

The flying ribbons were, however, appropriate, for the occasion was a very joyous one. There is no body in the Episcopal church of which the whole communion is more proud than of St. Andrew's Brotherhood. The genesis of this order has revolutionized the part taken by men in the church life. In dealing with boys outside of church, it had long been recognized that the thing of greatest importance was to give them something good and useful to do, preferably, of course, something for others. This principle has latterly been embodied very happily in the central thought of the St. Andrew's Brotherhood. All the members are from the very fact of their membership pledged to do. And because the men of the Episcopal church have not in the past done so much as men in many churches to lead others towards the benefits of religion, the brotherhood idea came to fill a very real need.

Bishop Lawrence, in his address of welcome given at Emmanuel Church on Thursday, emphasized very properly the fact that the community in which the present convention is held was founded on a deep religious motive. "It was that our fathers might worship God as their consciences prompted them that they came to these shores. Here they dwelt, and here they began to found what they supposed might be a permanent theocracy."

Yet when the first great spiritual motive had run its course there came to be, as the bishop well pointed out, a narrow conception of the faith and the truth. And it was only when there was revealed in the personality of Dr. Channing that charitable, rational sweetness which distinguished the true Christian life that Puritanism ceased to be synonymous with harshness.

It was, however, in Phillips Brooks, of course, that the large humanitarianism of Channing was united with the religious

faith of the historic church, and because Brooks was what he was he made the church increase mightily in numbers, and attracted, as no other church clergyman has done, men who should be full of zeal and good work. Such men it is that the St. Andrew's Brotherhood is now helping to grow in grace and spiritual energy.

Merely to look into the faces of the delegates here in Boston, today, is to feel a finer faith in American manhood. And to attend one of the meetings of the Junior Brotherhood, made up entirely of boys who are loyal and enthusiastic wearers of the little red cross, is to be quite convinced that the future, as well as the present, of the church is very bright.

Boston is decidedly to be congratulated upon having this army of devoted Christians men a little while within her gates at the beginning of the student year. The influence of such a gathering is not confined to its members, or even to those interested people who attend the meetings. Something of spiritual glow and enthusiasm comes inevitably to a community on an occasion like this, and the cheery aspect of the St. Andrew men will not fail, we are sure, to strengthen in students, as well as in older folk, the conviction that a manhood instinct with faith and service is most worthy of emulation.

## Jays of the Hop Picker.

This year's crop of hops is in the hop-house, the sulphur and wood fires have been put out, and the Mohawk Valley awaits the coming up from the city of the buyer.

There are not many old persons nowadays in the hop fields. The rising generation has driven them out. The young folks take a pride in their work, and a personal interest in having their hops clean. It is said that the old folks are apt to be too remiss over their work. The number of pickers in the fields this year is placed at thirty thousand, upwards of ten thousand more than in any year heretofore.

Picking hops, says the New York Sun, is a fascinating employment. Once the habit is acquired of going to the hop country, the desire to engage in the work returns with the coming of the season. In August it was printed that Magistrate John C. Mott had been asked by a prisoner in the workhouse for his liberty, so that he might pick hops. It turned out that this was the thirtieth such request made within a short time. All said they wanted to go and pick hops.

Growers do not come as far away from home as this city for pickers. A corporation was formed here and incorporated at Albany, to supply pickers to growers. They did not get any here, but had to go where the hop pickers are to be found, either at Albany or in the neighborhood of the Mohawk Valley. All the hop pickers stopping in this city have places where they have been picking for years, to which they go.

Pickers hop growers have learned, are very uncertain propositions. And their promises are not apt to be a source of great reliance. Pickers may bargain in a country town to pick hops, and slip away from the hop grower anywhere before reaching his farm.

"I once hired a number of pickers in Amsterdam," said a hop grower, "and had started off toward home with the bunch. Going across fields, they 'lit it.' I went back and got other pickers, and they, too, skipped away. I had to go home without pickers."

The corporation was formed just to spare the grower all worry, and it certainly did get all it wanted itself. The hop pickers made all sorts of trouble for the new company. The latter showed that it would stand for no nonsense. It had a number of hop pickers locked up in Fort Plain. They were let go after being in jail several hours. Now threats of false imprisonment are made.

Once the pickers are in the hop fields nowadays they are fed well and they are comfortably sheltered. They may not be just delightfully situated, now and then getting the fumes of burning brimstone when the wind shifts, but pickers do not mind that, going to the country roads when the sulphur is too strong. In pleasant weather they do not mind it at all, but in storms it is bad, as they have nowhere else to go for miles around.

But the food it is that delights the picker. The air of the country develops a good appetite in him. The twenty or thirty days in the country the picker abstains from drink of any kind. This is a new life. His old life is a pleasant memory and in the new one he enjoys anticipation of the good things he is to enjoy again when back in the city.

"How'd you like a schooner just out of the keg?" a picker sitting down to a dinner of boiled beef and cabbage and potatoes was asked on a hop farm some little distance out from Cooperstown the other day.

"I could get away with several of them without difficulty," was the reply, "but heavens, where are they? Miles and miles away."

The food and the hard work seem to tickle the fancy of the pickers. At table and in the hop fields they are as frolicsome as kids. All sorts and conditions turn up in the hop fields, mechanics, tradesmen, artisans, song-and-dance men, showmen, all want to get in shape for the coming season. They don't mind doing work and earning a little money to help along at picking hops.

"Work from sunrise to sundown," a man from this city said, cogitating with a hop-picker who was discussing things, "that's 'bout all."

"No, it's fun, just fun," the picker replied. "Why, I'm having the time of my life."

It is to the hop dance that the pickers resort for real enjoyment. With a country girl or two under his guidance the picker walks a couple of miles there without a whimper. An accordion or a concertina furnishes music. Each dancer is assessed a nickel for every dance he takes part in. If there are two musicians there certainly will be a fight. No musician in the hop country will consent to a fair division on the lines of an equal share for each. Every cent given to a musician, he argues, was so intended by the person giving it. In other words the persons making the music are the only ones that peculiarly benefit from the dance.

The feed-crackers, cheese, cookies—all are supplied by the house, and, of course, are handed around freely. Hop dances always break up before midnight. And the dancers walk home. No one thinks of letting a horse and wagon out. Horses have other work to do besides helping in the diversions of hop pickers.

His wife has her hands full. She can only snatch a wink of sleep now and then, for she insists upon doing the baking. The loaves are baked once or twice a day. The cakes, crullers and cookies all have to be turned, and the pies, too. And so it goes, day in and day out.

"Guess I don't want these people going away with the notion that we do not eat and live well in the country," said a matron in the hop country. "We have fresh meat every day, for all that meat is in the hands of trusts. They cannot frighten us, for we have beef, mutton and lamb at our elbow."

"Hop picking is coming to be a means for a larger number of persons to go out into the country each year," said a grower recently. "Folks rather like it, for there is just enough work to suit some, and instead of needing money to pay board, you are sure to bring some home."

## Pure Milk Handling.

The efforts made by science to eliminate the bacteria from milk so that it could keep longer and be supplied to consumers in as pure a form as possible, all tend toward helping the dairyman in his work of making a better living. Our best creameries are now producing better butter because of the care in handling the milk, and our dairymen are realizing more for their product which is thus scientifically handled than was ever the case when careless methods were in vogue. A recent bulletin of the New York Cornell Agricultural Station calls special attention to this, and adds that every farmer has before him the problem of producing milk of high quality which will keep, and milk which has the proper proportions of butter fat, casein, albumen and water. Better cows are the first requirement to improve the quality of the milk, and then handling the milk scientifically is necessary. This is to be interpreted in other words as "cleanliness." Every effort must be made to keep the cows clean, and to house them in sweet sanitary barns. All milking utensils must be sterilized. Germs of decay which sour milk are to be found in unclean utensils and in the air and water of the stable. The milk pail should have a strainer over the top, made of several thicknesses of cheesecloth, and then as the milk is obtained all foreign matter will be separated from it. The milk should be cooled immediately after milking, but it must be understood that this merely checks the growth of bacteria, and does not destroy them. If later the temperature of the milk is raised the germs will begin to multiply rapidly.

## From the Census Reports.

The system of making butter in quantity from milk or cream collected from numerous farms soon followed the introduction of these factories, now nearly forty years ago. This system, as far as known, originated in the United States. It first went by the name of butter factory, but was soon changed to that of creamery, and probably will so remain.

The first butter factory was built in Orange County, N. Y., in 1864, and received daily the milk from 375 cows. At first the creamery system was largely co-operative, but changes have since been made to joint stock companies, individual proprietorship, etc.

It is stated there are now four groups or classes into which these creameries are divided, with the following numbers in each: Individual, 4500; firms, 1340; corporation, 1628; co-operative, 1813; total, 9342 in the United States. As will be seen, by far the largest number is in the first group or individual proprietorship. The tendency has been in this direction for many years. In New England less than twenty years ago all of the creameries were on the co-operative plan. Now only a bare majority remain so in Massachusetts.

Wisconsin must take the lead in number of creameries, being credited with 2018.

What is known as the cream-gathering system, which was largely employed at first, in distinction from the creameries where the milk was delivered direct, is still in operation to a considerable extent. There were 203,673,958 pounds of cream received in 1900. Of this amount 63,308,657 pounds were sold as cream, and from the remaining forty million pounds of butter were made.

The amount of butter made in creameries is reported under two heads, "solid packed" and prints or rolls. It appears

that of all the creamery butter made, 323,956,990 pounds, or 78.3 per cent., is solid-packed—that is, put in tubs and boxes; and 91,100,966 pounds, or 21.7 per cent., is made into prints or rolls. The proportion in each of these two classes will vary in accordance with the demand in different parts of the country, some requiring more of one and some of the other. In Vermont, about one-fourth of the product, it is stated, is made into prints, which appears to be a pretty large proportion.

The average price obtained for all butter as reported by the creameries for 1900 was very nearly 20.1 cents per pound. The average for that packed solid was 19.4 cents, and for the prints or rolls 22.1 cents. This makes quite a difference in favor of the prints, as will be seen. Nearly markets have also something to do with increase in prices, as Massachusetts and Pennsylvania average about 23 cents a pound for prints, while in Connecticut it reaches 24.6 cents. The average for some of the States in packed tubs was, Iowa, Wisconsin and Minnesota, nineteen cents; Nebraska, eighteen cents Kansas, seventeen cents.

The average per cent. of butter fat in the milk is put down at 3.8, or just a trifle above the standard for legal milk in quality as sold for consumption. Here again the State of New York takes the lead, the average per cent. of butter fat reaching 4.1. This is indeed pretty high,—too high, it is thought, as compared with what it should be in Vermont and New Hampshire. This is a pretty good exhibit for the creameries of this country, but prices, at least have increased, somewhat, since the census was taken.

E. R. TOWLE, Vermont.

## Popular Science.

Half a million miles is the latest estimate of the length of the world's railways.

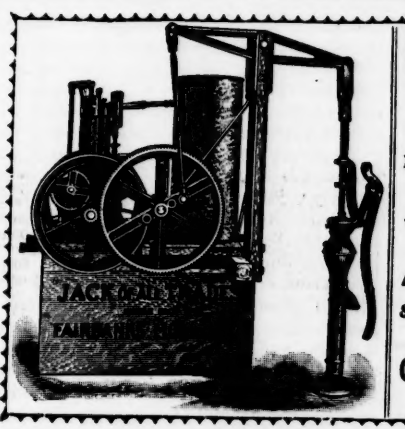
In Texas and Louisiana there are now more than one hundred canals and pumping stations, each capable of flooding one thousand acres of rice. These are owned by irrigation companies, which supply the water as needed to the rice farmers.

Sleep is induced by the Javanese, states a French author, by compressing the carotids. These large arteries, which carry blood to the brain, run upward below the ear from the lower front of the neck, and are pressed with a hand on each side of the neck. The brain congestion producing wakefulness is thus reduced.

The hydraulic mining machine of James Tongue, Jr., is designed to replace explosives in mines liable to contain freamp. It consists of a steel cylinder twenty inches long by three inches in diameter, across which are arranged a series of eight small telescopic rams, and in use the cartridge is pushed up into a drill hole in the coal and hand-pumps force water into the cylinder, driving out the rams. A pressure of three tons per square inch can be readily obtained. In about ten minutes the rams break down the coal in large pieces, and with much less waste in dust and fragments than when explosives are used. A test of two years has shown the cost to be about the same as ordinary mining. But the cost is more valuable, and the dangers are greatly lessened, many deaths resulting yearly both from accidents with explosives and from the lighting of explosive gases. The British Society of Arts has found the car-ridge worthy of an important prize.

## Page Woven-Wire Fence.

The Page Woven-Wire Fence Company of Adrian, Mich., sent us the first woven-wire fence advertisement that ever appeared in our columns, and it has been running continuously for many years; and more than that, we do not remember the instance where the same advertisement was ever run a second time. This shows that they have paid close attention to their advertising and



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## Our Homes.

## The Workbox.

## CROCHETED GOLF CAP.

Use Saxony wool and a coarse crochet hook. Make a chain of 7 stitches and join in a circle.

Work first row round in double crochet, making 2 stitches in each stitch of chain.

Work second row round, making 2 double crochets in every alternate stitch of chain.

This starts the seven divisions of cap.

Work third row round, making 2 double crochets at the first stitch of each division, taking each stitch through both loop of a chain.

Work around thus 23 rows, always increasing at the same place. Work 2 plain rows and then decrease by omitting one stitch at the commencement of each division.

Work around thus 12 rounds.

For the head band, now work 6 straight rows in double crochet. Line if desired.

## LINEN TABLE COVER.

A beautiful insertion and edging to match convert a linen square into a thing of worth and beauty. Knitted and crocheted laces are pretty when linen thread is used.

EVA M. NILES.

## For the Home Dressmaker.

Fashions change so rapidly that there are few homes where the remodeling of last season's gowns does not become a necessity, and the question to be considered is how it may be done in the most satisfactory manner. In some large places there are dressmakers who make a specialty of making dresses over, and derive a good income from it, but many women do their own sewing, which is a great saving, and with the aid of good patterns the results are very satisfactory.

If one wishes to accomplish a great deal of work in a short time, it is best to have a small room set apart for the sewing-room. One cannot keep the sitting-room neat if such work is done there, and this consideration, as well as the comfort of the family, will well repay the expense of heating a separate room.

There should be a good machine, a cutting-table, a large and well-fitted work-basket, and a set of drawers for keeping pieces of various materials left from dresses and other garments, spools of silk and cotton thread, unfinished sewing, etc. A wire skirt form is a great convenience, enabling one to see at a glance whether they are even all around or not. A woman with a room fitted with all the implements needed can accomplish almost twice as much as one whose tools are scattered.

When a dress is to be made over it should be ripped apart, every stitch picked out, and the clothed sponged and pressed before it is put together again. Black silk should be sponged thoroughly, then rolled smoothly on a rolling-pin. The economical woman buys good material, then when it becomes faded or she grows tired of the color, one or two packages of Diamond dye will make it fresh and pretty again. Navy or indigo blue, sea brown, wine color or bottle green are handsome, while black is always a safe change. The brighter shades are often preferred for children. These dyes are not only pretty but permanent, and are a great help to those who must make the best of the material on hand. The sewing should be done as carefully as if it were a new garment, for the little details make a great deal of difference in the appearance of a gown. The safest plan for an amateur is to cut the lining of the waist and fit it on the person for whom it is intended, before cutting the material. Get a good pattern if you do not cut by a chart, and follow the directions in the minutest details, and you can scarcely fail to obtain satisfactory results.

The skirt is almost as important as the waist; the top is snug fitting, and the old-fashioned gored are easily shaped without plying. Two old skirts may be used for one of the new ones with the circular flounce, by using one for the gored and the other for the flounce.

E. J. C.

## Care of the Milk Teeth.

Few parents realize what an important part the teeth play in the preservation of health. We all know that life is maintained by the food we take, and we also know that food must be digested before it can be taken into the system and form new tissue. This digestion is effected within the body by the action of various digestive fluids, but the food must be cut and ground by the teeth before these fluids can come into contact with every part of it, and without serviceable teeth this first act of digestion cannot be properly performed.

If the teeth are so important their preservation is surely a matter for which it is worth while to take a little trouble, but they can be preserved only by beginning early in life, and beginning right.

Parents are too apt to neglect their children's first teeth. They know that they are bound to drop out in time, whatever care is taken of them, so it seems foolish to fill them or take any special pains to make them last. But there is many a misshapen mouth that bears witness to the fallacy of that reasoning. The milk teeth are needed to keep a place for the permanent teeth, and if they are lost prematurely the jaw will not grow properly, and the new teeth will be so crowded that they must turn sideways or be forced out of line. Furthermore, the child's food must be masticated as well as the grown person's if he would be saved from a life of dyspepsia. And, finally, for the sake of the permanent teeth, the child should develop early habits of mouth cleanliness.

When teeth come they should be cleaned regularly with a soft cloth and warm water, and as soon as the child is old enough he should have a little tooth-brush and be taught how to use it twice a day. This will help to keep the tender teeth from decay, but more than that, it will inculcate in the child the virtue of mouth cleanliness, and teach him hygienic habits which will stand him in good stead his life long.

If, in spite of care, the milk-teeth begin to decay, they should not be extracted, but should be filled, so as to keep them from falling until the permanent teeth are ready to protrude. The child's mouth should be

examined by a dentist once or twice every year so that the tartar may be removed, and any spot of beginning decay may be detected and treated.—Youth's Companion.

## The Science of Diet.

Of the 1,100,000 persons born in this country in a year, one-fourth die before their fifth birthday, one-half reach the age of fifty, and barely a quarter live the natural span of threescore and ten. Thus, three out of four people, in the healthiest country of the world, die before their time.

This is a very remarkable state of things for the twentieth century. And it is more remarkable when we consider that much of the extraordinary shortening of life is due to the food we eat.

Some time, no doubt, we will have a real science of diet. When that day comes life will probably be prolonged to 150 or two hundred years, and centenarians will think nothing of playing polo, breaking a bicycle record, or performing on the tight-rope or in the prize ring.

There is absolutely no physiological reason why people who escape disease and accident should die at all. Those who gratefully wear out and die of old age succumb to a long course of food, which was not exactly what their body required. Comparison of the human body with any machine serves to prove this statement. Both the body and a saw for example, wear out by their daily work. No art can replace the particles removed from the saw, and so a time arrives when it is completely worn out.

But in the body, the moment a particle of brain, nerve or muscle is worn out it is replaced by a perfectly new particle. As a rule, this new particle is exactly similar to and as good as the old one. If this were so in every case, then our bodies would be immortal. But it is not so in every case. Now and again a defective brick replaces a sound one in the human edifice, till, at length, so many defective bricks are intercalated that the whole edifice collapses.

But the bricks are made of material derived from the food we put into our stomachs.

Hard water, for instance, has in it precisely those elements which most of all bring about death from old age. If a bottle be filled with London water, in a few days it will have become almost opaque from a dirty white coating over the inside. The coating is composed of lime salts—carbonate and sulphate of calcium. Now, what mostly causes death in old people is the deposit of these very lime salts in the walls of their arteries and veins.

A healthy blood vessel is very elastic and allows the blood to flow freely through it. But in old age the vessels become hard and unyielding, their bore is diminished, and the blood stream is lessened. This results from the presence in their walls of lime, and the consequence is that neither brain nor muscles, liver nor lungs, receive sufficient nourishment, and life goes out like the light of a lamp without oil.

The calcification of the arteries occurs very slowly, for the blood has the power of absorbing the pure water only and rejecting the lime. But now and again it lets a small quantity in by accident, and a gradual accumulation occurs in all the tissues of the body.

Any kind of food that throws too much work on the bodily organs must necessarily shorten life.

Among meats and vegetables there are many things which shorten people's days upon earth. Roast pork, for instance, throws an enormous amount of labor on the stomach and pancreas. So do roast duck, salmon, mackerel and other things. The stomach gets its extra energy from the brain, and it also draws on the blood for digestive material. This overdraught must be supplied from food, or otherwise the rest of the body will have to go short. But unless a man is very healthy he cannot assimilate enough of food to make good the increased loss. In most people, therefore, these indigestible foods inevitably shorten life.

Many city people make their lunch off some bread and cheese and beer. Most of them would undoubtedly live longer if they took more suitable food. Cheese is packed with nutriment. But the digestive organs have such hard work extracting this nutriment that it is doubtful whether there is not a loss in the transaction.

Cabbage—the British vegetable—is another shortener of life in a great many cases. Cabbage consists mainly of cellulose, but the human stomach can make nothing of it. It often decays on the inside and gives rise to poisonous gases.

Of course, excess of any kind of stimulant hurries us on to the grave. Beef tea, for example, increases the pace of life and over-indulgence in it would cause the body to wear itself out quickly. The same holds good with coffee or tea.

The question whether vegetable food or animal food shortens life most is not yet solved. Vegetable food makes the blood vessels hard and stony, deposits tartar on the teeth, and makes them fall out. It increases the fat of the body, and tends to cause fatty degeneration of the heart, liver and brain.

But meat gives gout. Possibly it is the cause of rheumatism. It produces trichinosis, tapeworm disease, erysipelas and other things. Some people think that the blood of meat produces consumption and cancer. And it is certainly a fact that the Jewish people, who remove all blood from their meat, are exceptionally free from these two diseases.—London Mail.

## To Make Jelly Right.

Whatever fruit is used, cook until soft; then let it drip from a suspended sack made from thin but strong material. Never squeeze it with the hands; give it time, and the juice will drip through into the receiving vessel, which should be an earthen bowl. Put the juice into a porcelain kettle and over a brisk fire; boil twenty minutes. At the same time, place on an earthen platter the quantity of sugar you will be likely to use; set it in the oven, and heat through thoroughly, being careful that it does not scorch or discolor. When the juice has boiled briskly twenty minutes from the top of the stove, remove and measure it, and allow as many pints or quarts of sugar as there are of the condensed juice. Stir all together and boil about three minutes. Strain into a pitcher, fill your jelly glasses, and let stand until next day; then cover securely and store away in a cool, dark closet.—Country Gentleman.

## Honey as Food.

It is a fact generally known that starch and sugar must undergo a digestive change before they are assimilated. But it is not so generally known that in honey this change has been made to a considerable extent by the bees. A writer in Health explains that honey is easy to assimilate, is concentrated, and furnishes the same elements of nutri-

tion as starch and sugar, imparting warmth and energy.

As a medicine, honey has great value and many uses. It is excellent in most lung and throat affections, and is often used with great benefit in place of cod-liver oil. Occasionally there is a person with whom it does not agree, but most people can learn to use it with beneficial results. Children who have natural appetites generally prefer it to butter. Honey is a laxative and sedative, and in diseases of the bladder and kidneys it is an excellent remedy.

It has much the same effect as wine or stimulants, without their injurious effects, and is unequalled in meat and harvest drinks. As an external application, it is irritating when clear, but soothing when diluted. In many places it is much appreciated as a remedy for croup and colds: In preserving fruit, the formic acid it contains makes a better preservative than sugar syrup, and it is also used in cooking and confections. Honey does not injure the teeth as candies do.

In early times, it is said, Palestine flowed with milk and honey, but we have far more today than the people of any previous age ever had.

## Toilet of the Hair.

Here are a few hints relative to the care of the hair, set down as briefly as possible, and dedicated to the woman possessed of the truly feminine desire to look her best. No woman can look her best unless she has glossy and well-kept hair.

Good circulation is essential to fineness, luxuriance and gloss. To stimulate the circulation, frequent brushing and massage are necessary.

The right way to brush the hair is to grasp the brush firmly with the right hand and the hair loosely with the left, and brush with a soft, guiding motion, every strand being brushed up, down, to the right, to the left, in semi-circles from the forehead to the centre of the head, then from the nape of the neck upward to the same point.

This operation requires from half an hour to an hour. At the end of the time the hair is all in a glow and the hair glossy, elastic and alive with color.

This treatment too, feeds the hair by directing a fuller flow of blood to the hair follicles. One reason why hair falls out is that it is not fed and the circulation is not stimulated.

Use the comb gently and never use a fine comb. It is, at best, but an instrument of destruction, and in general is needlessly and thoughtlessly used.

Hair must be washed once a month to keep it clean. Let the shampoo be a thorough one, with a little borax or the well-beaten yolk of an egg in the water. Always rinse with clear water. There is no danger of taking cold after a shampoo if a little alcohol is rubbed on the hair at the back of the neck.

Never use a cake of soap upon the head or the hair. The soap clings to the hair and cannot be washed off, try as hard as you will. After washing, the hair must be well dried or it will smell musty, and if it is quickly dried, so much the better.

Rubbing the head with towels breaks the hair, but a hot towel can be laid upon the top of the head and another can be wrapped around the ends of the hair.

It is well to have a bottle of shampoo liquid on the toilet table and to use a little about once a week, when the hair and scalp need cleansing.

That there is a relation between the scalp and the stomach is a fact upon which the wise woman ponders, and she regulates her dietary accordingly.

Women who have the finest hair live principally upon fruits, grains and vegetables. Vegetables and cereals are airy tonics. Too much meat and milk cause atrophy of the roots, and, of course, the hair comes out as a result of this condition.

Milk is the poorest diet for the hair. Nor are tea and coffee much better as promoters of hair growth.

If the hair is falling out eat little meat and drink no milk; live upon fruits and vegetables. Fruits give luxuriant locks, especially those containing iron. Prunes, cranberries and spinach are also useful articles of diet if one would have fine hair. Hair that is growing coarse demands a diet containing albumen and gelatine.—N. Y. Sun.

## Domestic Hints.

## BAKED TOMATOES.

Mince very fine a slice or two of bacon with any kind of cold cooked meat. Season well with salt, pepper, and a little minced parsley, and a bit of stock to moisten it. Scoop all the seeds out of the tomato, put in the mixture, cover with a few bread crumbs, and bake in a hot oven for ten minutes, and cook till the tomatoes seem tender, but without letting the skins break.

## TURKEY HASH.

Mince one pint of cold turkey; add one-half cup of turkey stock. Heat it very hot in a saucepan. Lay a large spoonful on a round of toasted bread; continue until all is used. Put a sprig of parsley on the top of each one and serve.

## POACHED EGGS.

Separate white from yolk; beat the white to a froth, add a pinch of salt, and turn into a pan of salted boiling water. When thoroughly cooked place on a slice of buttered toast. Drop the yolk in the same water, cook three minutes, and place it unbroken in the centre of the white. Season with pepper and serve.

## SALMI OF DUCKLINGS.

Cleanse two ducklings, sprinkle with salt and pepper, and put in a roasting pan, pouring two tablespoonfuls of melted butter over them. Roast in the oven, with their feet and wings tucked up, for half an hour. When done, quire until the ducklings are cooked. Take from the oven, cut off the legs, wings and breasts in good pieces. Scrape the rest of the meat from the carcasses, chop with a teaspoonful of chopped onion already fried a bit in butter, and heat all in a little melted butter, a cupful of stock, and a little of Madeira. Add salt and pepper to taste, thicken with a little browned flour and pour over the roasted duckling pieces. Set in the oven to heat a bit, and serve.—The Epicure.

## ANGEL CAKE.

The whites of nine large, fresh eggs. When they are partly beaten add one-half teaspoonful of cream of tartar and then finish beating—the cream of tartar makes them lighter—then add one and a quarter cups of granulated sugar, stir the sugar very lightly into the whites of the eggs, and beat for five minutes. Measure a cupful and fold it in very carefully, not with a circular motion, and do not stir long. Turn it into a Turk's head mould and bake forty-five minutes. Do not grease the mould, and when taken out of the oven invert it until the cake is cold before removing from the pan. Never use a patent egg beater for this cake, but a whip, taking long rapid strokes, and make it in a large platter, not a bowl.

## BROILED MUSHROOMS.

Select large flat mushrooms for broiling. Wash, skin and stem them, lay them on a dish, sprinkle with salt and pepper, pour a little olive oil over each mushroom, let them stand one hour. Broil on a gridiron over a nice clear fire. Place on a dish and serve with the following sauce: Prepare the stock as before by boiling the stems and skins in water and then straining. Mince the mushrooms very fine, add to the stock, with a teaspoonful of minced parsley, a few drops of onion juice, a small lump of butter, cook for fifteen minutes, then add a cupful of

cream, an even teaspoonful of flour wet with some of the cream and rubbed smooth. Let it all cook together for three minutes, then add the beaten yolk of an egg, stir well, remove from the fire at once and serve.

## Hints to Housekeepers.

A mingling of clove and lemon flavors in the afternoon tea is delightful. Drop a whole clove into each cup just before serving.

Mint phosphate is a refreshing drink for a hot evening. Crush sprigs of fresh peppermint and cover them with powdered sugar. Mix together a few sprigs of mint and orange, maraschino cherries and a little phosphate, and dilute with water and crushed ice. Add the mint and sugar.

A garish for the mutton platter may be prepared from a cupful of rice polished off, it is mixed with one-half can of Spanish peppers chopped very fine.

Most cellars are too damp for pumpkins and squashes. They keep better in a garret or any place where they can be kept dry and at a temperature just above freezing. If they must be kept in the cellar, place them on a shelf where they will not touch each other. Here they can be easily watched, and when one begins to decay it can be used or thrown out.

When fresh mushrooms are not at hand, add a can of the butter and a teaspoonful of onion juice or grated onion, a tablespoonful of Worcestershire sauce and a can of tomatoes. Season with paprika and salt. Cook for twenty minutes. Thicken with a teaspoonful of cornstarch wet in a little milk or water. Serve on toast.

It is highly improper for a person to drink to his own health, hence the only thing to do when one's health is being drunk by his friends is for the individual honored to leave his glass alone, and bow his thanks in a dignified manner, rising to talk only when he is called on for a speech.

Too much air and light will destroy the flavor of vegetables, and will cause them to dry and shrivel up.

Halibut moulded in a fish form makes an attractive and inexpensive dish. Separate the skin and bones from the uncooked fish, chop a pound of the flesh very fine and press it through a sieve. Cook a cupful of bread crumbs and a cupful of cream to a paste. Add to it the fish and a teaspoonful of salt, one-fourth teaspoonful of pepper and half a teaspoonful of onion juice and the yolks of three eggs. Fold in the stiffly beaten whites of the eggs and press the mixture into a well-buttered mould. Stand the mould in a pan of hot water and cook about forty minutes. Serve with tomato or tartare sauce.

To make a raisin filling for cake cook slowly a mixture of seeded and chopped raisins, a cupful of water and a cupful of sugar. When the raisins are tender stir in a slightly beaten egg, and cook over hot water until the syrup thickens. Add a flavoring of lemon, and cool before using.

A delightful salad is made of diced pineapple and celery, mingled in equal parts. Dress the mixture liberally with a mayonnaise, to which whipped cream has been added. Sprinkle over the salad slices of salted almonds and pecans.

Cucumber juice as a flavor to whipped cream makes an agreeable sauce for fish.

## Fashion Notes.

•The Louis XV. coat in velvet, brocade, or heavy silk or satin-fabric is one of the most stylish garments of the season, and the new mode have the skirt in either of two lengths, and the sleeves reversed in cuffs to any depth. For a tall woman of graceful figure this is one of the most becoming coats that have ever been designed.

•The Duchess closing is the characteristic feature of a stylish new shirt waist that may be made either with or without its additional straps and belt and short position tabs.

•Dressmakers are using pretty girdles and belts from the dress fabric extensively. These belts have the advantage of making the waist seem longer than when one of leather, satin or other contrasting material or color is used.

•Many quaint and novel slides, tiny clasps or buckles are used at the back of the bodice, holding each band, ribbon or strap in place to form the pointed girdle. When Empire sashes are worn, large square-shaped buckles of Norwegian silver are popular, some perfectly plain, others having a brilliant polish. These are worn as buckles, and they are quite as expensive as the richly chased styles, for the reason that they are longer and made of solid silver.

•The Marquise or tricorn hat reappears this season in felt, beaver and velvet, and is dressed with wings, rosette-feathers, pom-poms and aigrettes. Added to the plaited, shagreened, Gainsborough, and other familiar shapes of the summer past, are the new Alice Roosevelt picture models, the Mercedes toque, the Marie Antoinette urban, the sailor styles with rolling brim, low crown and shaggy back; and the Kate Greenaway with flat broad tan crown, trimmed with two very long ostrich plumes and a choux of velvet in two distinct shades of one color.

•New weaves in crepe de Chine and chiffon are now specially treasured for mourning goods. These fabrics are made up in light-weight taffets in jet black. One of the most beautiful of the textiles for evening dress in "semi-mourning" is fleur de suede, soft and pliable, but with great luster, and all the shades of black, from the deepest and darkest to the lightest and most delicate, with the added firmness of light suede knit.

•Small pale pink rose clusters are worn as a coiffure decoration in the evening, arranged in trailing wreaths around the full coil of hair which is dressed high on the head and fastened with a black velvet bow. Alsatian bows of black tulle are another decoration very becoming to some women. The coiffure à la Grecque has a richly jeweled dagger thrust through the low-coiled knot of hair.

•The jacket bodice shows the Russian and Eton blouse effects, which are in favor this season. Some of the models have the back in one broad piece without any seam down the centre, others again have a centre back seam and a belt and a peplum or postilion finish. One pretty style shows a jacket or blouse shape at the back, with the drooping blouse front opening over a fancy vest. These fronts are finished each side with vest pieces trimmed with gold or other braid and tiny buttons. Flaring cuffs similarly decorated give style to the bishop sleeves. Made of black velvet, this little garment is susceptible of many variations, with the aid of white cloth, silk or satin, Irish or Russian flax lace, French knots, applique, etc. Sable brown velvet, de Nord, with skirt to match, would make a handsome costume, with a vest of ivory taffeta trimmed with gilt bullet buttons and fine gold braid.

•In studying the new French models it is seen that notwithstanding the popularity of fancy silk and wool etamines, canvas effects, arched surfaces, and the like, many of the hand-somest costumes are again made of smooth-finished Venetian ladies' cloth and kid cloth. French designers continue to use these goods in cream white, amethyst, mauve and opal gray for brides and bridesmaids' toilettes, and choice dinner and reception gowns—filing them with pale-roses, cream and other tender tints. The new dyes in these wool materials are rich and artistic, and the fashion has not ceased of using two shades of one color in making the gown. Some beautiful shades in blue appear, among them being the rose turquoise, sapphire blue, swallow blues, as well as the gray silver tints so becoming to women who are neither blonde nor brunette in type.

•The grades of French cashmere brought out this season are more than ever desirable, first, from their beautiful and varied coloring and finish, and second, from their very reasonable price. Very many women prefer French cashmere to all other dress goods for ordinary wear. The new invoices have some very attractive patterns this season, among others, figured patterns on pale-blue grounds, with fine fawn-colored devices in delicate color effects. These fancy wools are specially adapted for demi-dress gowns for young women. With soft creamy lace trimmings, with loops or choux of dark velvet to tonify the whole, they prove very becoming to young people.

•Old-fashioned lavender perfume has come back to favor. It appears in the list of French

extracts and sachets, and it is also used on artificial flowers made in Paris. The odor of lavender is agreeable to many who do not like other perfumes.—N. Y. Evening Post.

## The World Beautiful.

Lillian Whiting in Boston Budget.

"O Divine action, I will cease to prescribe to Thee hours or methods; Thou shalt be ever welcome. O Divine action, Thou seemest to have revealed to me Thy immensity. I will walk henceforth in Thy infinity. No longer will I seek Thee within the narrow limits of a book, or the life of a saint, or a sublime thought. No longer will I seek Thy action alone in spiritual intercourse. For since the divine life labors incessantly and by means of all things for an advancement, I would draw my life from this boundless reservoir. The will of God imparts to its every instrument an original and incomparable action. We do not sufficiently regard things in the supernatural light which the divine action gives them. We must always receive and worthily meet the divine action with an open heart, full confidence and generosity: for to those who thus receive it, it can work no ill. Seek you the secret of union with God? There is none other than to avail yourselves of all that He sends you."

A French priest, preaching in an impassioned and sublime abandon of enthusiasm, caught up in a rapture of the heavenly life, poured out these wonderful words quoted above to audiences that thronged the dim shades of St. Sulpice, in Paris. His theme was the consecration of life to the divine will. He called upon all humanity to recognize that this divine will is revealed, not actively in the cloister or the silence, but in the common trend of daily life. "The field is the world." "All things," said this priest, "may further the soul's union with God; all things perfect it, save sin, and that which is contrary to duty." "You have but to accept all that God sends," he said, "and let it do its work in you. God's action is more universally present than the elements. No created mind or heart can teach you what this divine action will do in you; you will learn it by successive experiences. Your life unceasingly flows," continued the Rev. Father, "into this incomprehensible abyss, where there have but to love and accept as best that which each moment brings, with perfect confidence in this divine action, which of itself can only work you good." The entire discourse was a fervent and illuminating illustration of how the divine action reveals itself through the most common things. Mr. Longfellow expressed the same thought in the stanza:

All common things, each day's events,  
That with the hour begin and end,  
Our pleasures and our discomforts  
Are rounds by which we may ascend.

The French priest, however, invested this truth with a burning intensity and vividness that had almost the effect of a new revelation.

There is probably no thoughtful observer of the phenomena of life, with whom spiritual aspiration is ever present, who is not often honestly puzzled as to what extent the ordinary tide of events that attend him must be accepted as the will of God, and to what degree he should modify these by his own power of will in selection and grouping. He is engaged, for instance, in important work. To what extent should he yield to the "devastator of the day"? To what extent should he allow his general onward course of pursuits and interests to be deflected or changed by the unforeseen events that attend his pathway?

It may be accepted as a fundamental truth that good sense, good judgment, discretion, poise, are not unworthy to be ranked among the Christian virtues. Jesus was eminently sane. He was no fanatic. He gave both by precept and example the ideal of a rational and reasonable life. The individual has no right to rush off and kill himself because his dearest hope is denied or his most cherished purpose defeated. Nor has he any more right to commit what may be called intellectual suicide, by relinquishing his aspirations and endeavors, merely because things go wrong, or because he thinks they are wrong. The conditions of life are not necessarily wrong because contrary to what one might desire. Perhaps it is the desire which was wrong, and the conditions which are right, and which are the expression of God's will, and are thus to be joyfully accepted. The test of all circumstances and influence lies in unchanging fidelity, in unswerving allegiance to the divine ideal of life. The "devastator of a day" need not be welcomed to make unneeded waste of time and energy. It is all the more to be feared, and the interruption may be met with patience and sweetness, as well as with firmness of purpose in declining to be turned aside from the duty in hand. The adverse circumstances of life, loss of money, of friends, disaster in one way or another, that may come without visible relation to any error on one's own part, shall not such adverse conditions teach a divine lesson of patience and incite new springs of energy to overcome trial, and to gain by it a higher spiritual vantage-ground on which to live? Cannot even denial and defeat be held as developing qualities that might otherwise be latent? May they not teach the divinest lesson of all,—the one most invaluable to human life,—absolute trust in God? That innumerable trust that finds its expression in the words of the Psalmist, "Though He slay me, I will trust in Him."

Gaining this, the soul really gains all that it was sent on earth to learn through all the varied phenomena of joy and sorrow, of triumph and failure. There is a common expression of one's "embracing religion and turning away from the world." But the world is the place in which any real religion is tested and proved. "The field is the world," and it is there that the soul must recognize and receive the Divine Action.

The Brunswick, Boston.

It has been one thing to close the army canteen and quite another to keep those who are in the best position to judge from expressing their opinion as to the result. The consensus of these opinions points rather plainly to the idea that closing the canteen was a mistake; the soldier is finding a substitute, but not exactly the kind of a substitute that the original agitators cheerfully hoped to see in operation.

## Our Lady Readers will

## Recognize This Picture.



## A Fac-Simile of the One Printed on the Wrappers of

## Dobbins' Electric Soap

The soap their mothers used to delight in using. Dobbins' Electric is the same pure article it was when it was first made and cost up to it cents a bar. If your clothes do not last as long and look as white as they used to, it is because your laundry is using some of the cheap trash, loaded with rosin or other adulterants, that discolors and ruins the pure, and made of borax and the finest oils. It whitens the clothes, and preserves them. It is the greatest disinfectant in the world, sold by all grocers.

DOBBINS' SOAP MANUFACTURING CO., Sole Manufacturers, Philadelphia.

## Notes and Queries.

## THE STONE OF ALLAH.—"R. W. C." One

of the most cherished possessions of the Moslem world is the Great Sacred Turquoise, or "Stone of Allah" in the treasury of the Sultan of Turkey. It is a turquoise of perfect color of the size of a small hen's egg. On it in Arabic characters is the name of God engraved in shining gold, the workmanship being excellent. Eastern superstition has it that an engraving was the work of no human hands, but was done by angels who brought the gem to Mahomet at the conclusion of the revelation of the Koran to him by the Angel Gabriel. Few Christians have been privileged to look upon this marvelous stone, which is credited with miraculous powers. Should any person steal it, it is believed by the faithful to return of its own volition to the Caliph as head of the Moslem world, after a swift and terrible death has overtaken the thief.

CHOP SUEY NATIONAL DISH OF CHINA.—"Uncle Den": Chop suey, the national dish of China for at least twenty-five centuries, bids fair to become a standard food in this country.

There are some sixty Chinese restaurants scattered in the four different boroughs of Greater New York whose chief attraction is this popular composition, and several American restaurants have endeavored to take advantage







## The Horse.

### Plowing in the Fall.

Hardly are the crops gathered in before preparations are commenced for those of another year, and first among the work to be performed is plowing. This is the foundation of all good and profitable farming.

If there is any preparation work necessary to be done before the plowing is commenced, by way of removing obstructions, that should first be attended to. Many of our farms are more or less stony, and it may be necessary to remove such as would be in the way of good work. This is something that it will pay to do, for no farmer can afford to plow or cultivate around among rocks or other obstructions that with reasonable effort or expense can be removed.

A large part of the plowing is now done in the fall, and, indeed, in a considerable part of the country, the sowing also. The reasons for the first are that on most farms there is considerable of this work to be done, and there is more time to do it than in the spring. It makes a great difference in the spring work if the plowing was done in the fall. And then if the manure is drawn out in winter and spread on the land where it will be wanted, as is now largely being done, the farmer will be able, as soon as the weather and condition of the land will admit, to go about his sowing or early planting, and generally speaking this means a good deal, as the earlier crops of most kinds are found to be best.

There is usually time in autumn to do this work of plowing in the best manner, and in no other way should it be allowed. First, get a good plow, one of the best adapted for the work to be done, and do not expect one plow, however good, to be suited to all conditions. There are good plows from which to choose, and the best will be none too good.

Then have a suitable team, with harness, whiffle-trees and plow all properly adjusted to do the work required. With these and a competent man "behind the plow," for all men are not adapted to this work, the results should be satisfactory.

With plowing that is done in fall there will usually be an even, smooth surface for the most effective work with the harrow in spring, when the soil can be most thoroughly pulverized without a second plowing, leaving it in best condition for seeding and cultivation.

As to the depth of plowing that will depend largely on location, soil and kinds of crops to be grown. Every farmer should be able to best judge in this matter. On some farms or soils it may be best to deepen the soil, but this should be done gradually, a little at a time, so as not to bring up too much of the subsoil, which might prove a detriment rather than a benefit.

Of course, there are some kinds of land so situated that it would not be advisable to plow in the fall, and the farmer must exercise his own judgment, gathered from experience and observation in the matter. Some heavy, tenacious soils are benefited by plowing late in autumn, so as to be more readily acted upon by the ameliorating effects of the winter frosts. Again some farmers like to manure land for corn on greenward in fall or winter, and then plow under a considerable growth of vegetable matter, just before planting, for the benefit of the crop.

Let every man be fully persuaded in his own mind. In all of this the farmer should aim to do his work at the most favorable time, all things considered, and in the best manner, for this is the kind of planning and work that will pay and that is wanted, and nothing of an opposite character should be tolerated or allowed.

E. R. TOWLE.  
Franklin County, Vt.

### Life-Insurance Surpluses.

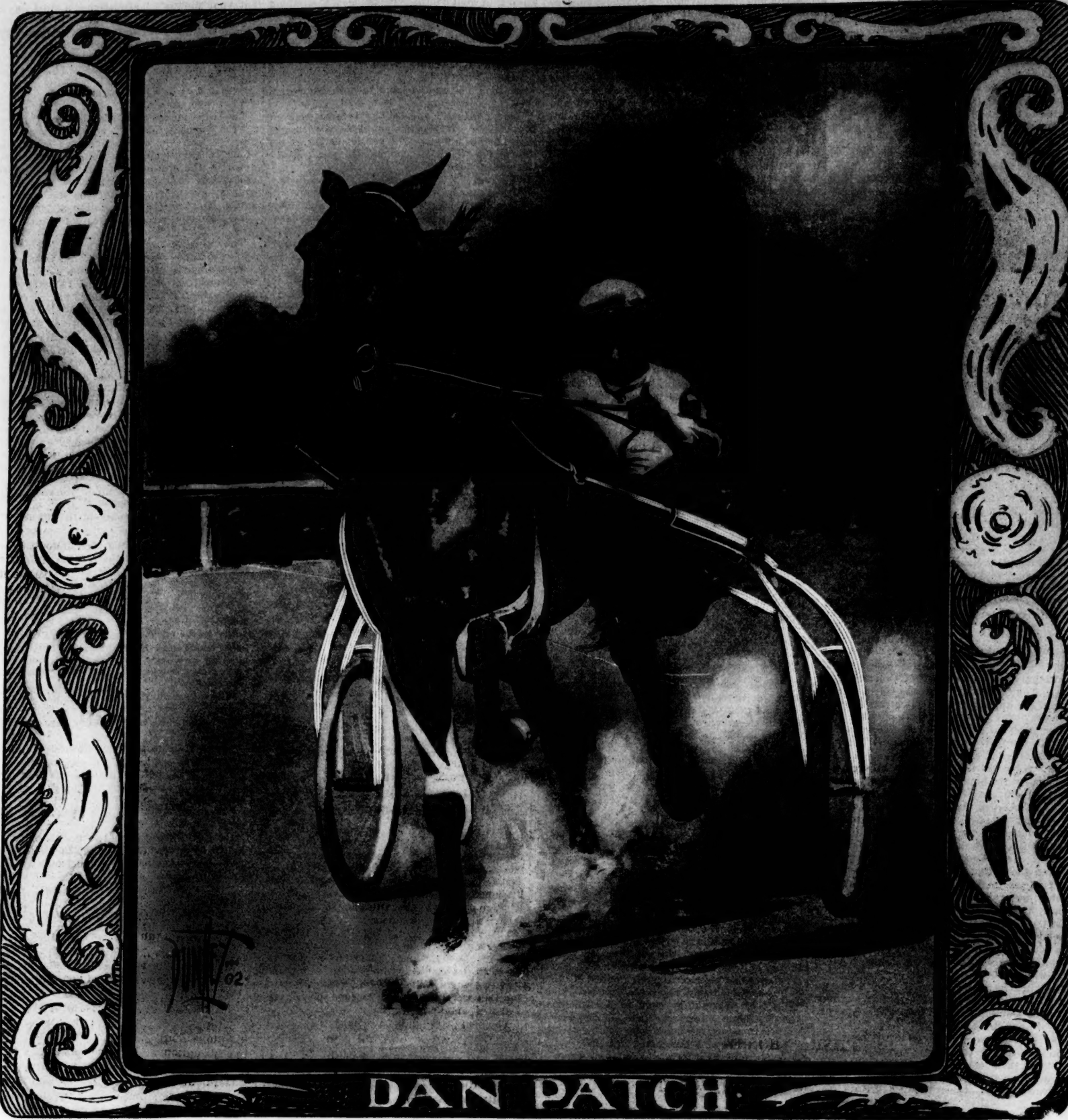
Life-insurance companies are increasingly significant factors in the securities market. Few recent important financial transactions in this country have been free from influence of the few strongest companies. Of the capacity of these institutions to absorb securities there seems to be no end. It becomes an important matter, therefore, what securities they are willing to absorb. It is of corresponding importance to the public and the policy holder to realize the significance of these absorptions.

A few figures will disclose something of the situation. At the close of last year the sixty-seven leading insurance companies, both life and fire, reported total holdings of stocks, bonds, mortgages and real estate of more than \$1,500,000,000. Nearly all insurance companies are of mutual character; that is, they are managed for the benefit of the policy holders. Notwithstanding this fact, these reports show that for last year the total income of these companies amounted to about \$376,000,000, more than \$200,000,000 above the amount paid to policy holders for all purposes. Expenses were about \$77,000,000, so that there was a surplus of more than \$129,000,000 in which policy holders did not participate at all.

These are not the figures of a phenomenal year. They represent a tendency toward the accumulation of large surpluses. The simple fact is that the income of these institutions is enormously greater than their outgo. The extent of the investments and the manner in which they have been distributed represent the fact that the insurance company has ceased to be merely a benefit association. The ganglions of its life have traversed the entire financial world. What is true of insurance companies in general is especially true of life-insurance companies. The more important of these have become not only what their name signifies. They are, in fact, banking corporations, trust companies, safe deposit concerns, and possess in addition a powerful influence in the affairs of railroad corporations.

For example, the Mutual Life Insurance Company of New York owns a controlling interest in the \$2,000,000 capitalization of the United States Mortgage and Trust Company, as well as several million dollars worth of the bonds of the same corporation. The New York Mutual owns almost control of the Guaranty Trust Company. A very considerable interest in the great Morton Trust Company is similarly controlled. Each of these companies has offices in the New York Mutual's building in the city of New York. Each is in close touch with the others. The resources of each are ready any time to co-operate with those of the others.

Notice the Equitable Life Assurance Society's report. This society—whose capital stock is \$1,000,000—owns absolute control of the Western National Bank, with its \$2,100,000 capitalization, and of the Mercantile Trust Company, with \$2,000,000 capitalization. Subsidiary to the Mercantile Trust Company—which is an exceedingly powerful concern—is the Mercantile Safe Deposit Company, itself a most profitable organization. All these corporations rest under the wing of the Equitable Society, having offices in its building. It may be assumed that, for all practical purposes, they are one institution.



Within the current year the activity of the great life insurance companies in the financial market has been more pronounced than during any previous period. When the International Banking Corporation was organized in January, with \$10,000,000 resources, it was announced that the Equitable Society had taken a large interest in the company. That new banking institution was formed expressly for the purpose of facilitating a foreign exchange business between New York and cities of the far East. Immediately upon its formation it was found that the Guaranty Trust Company, fostered by the New York Mutual Company, had been equipping itself also for an international business in the same territory. It can be stated as a cardinal principle of life-insurance investments that they should be entirely safe and certain of yielding at least some interest. But this does not prevent making very large deposits with closely allied trust companies or banks to participate in the profits of some tremendous "underwriting syndicate." The trust company, with its almost unlimited powers, may do much that the insurance companies may not do. The insurance company, therefore, provides the resources.

The insurance company has a large amount of title insurance to place. It selects its company; then it makes a large investment in the capital stock, regaining a considerable portion of the fees paid for services in the form of dividends. Curious evidence of the variety of these insurance investments is found in the conspicuous experience of an insurance company which owns a valuable building in New York and desired to rent a section of the building to a bank. A large amount of stock was taken in a newly organized bank simply to induce the bank to rent the vacant portion of the building. The bank, however, did not succeed; so the insurance company increased its holdings of stock, nominated a new management, and by liberal co-operation placed the bank upon an exceedingly profitable basis.

The personal element involved in these interweavings of interests is most important. It is scarcely likely that the Equitable Society would purchase \$5,000,000 of stock of the Pennsylvania Railroad unless the insurance company were represented on the railroad's board of directors. It is a general principle of corporation management that the largest stockholders should be represented in the directorate of the company. Mr. James H. Hyde, the late president of the Equitable, was chosen a member of the Union Pacific Railroad board at a time when the insurance company was buying large holdings in that corporation.

The New York Life Insurance Company desired to do business in Germany, and the laws of that country forbade an insurance company holding any industrial securities. That law has curtailed the New York Life's list of investments, but that company is nevertheless a great figure in the financial market. George W. Perkins, chairman of the finance committee of this company, was not long since made a partner in the firm of J. P. Morgan & Co. Through loans, always, of course, properly secured through deposits in banks, and through other media quite as legitimate as ingenious, the New York Life Company manages to avail itself of large profits placed by J. P. Morgan & Co. within the reach of their patrons.

The tremendous accretions of power of these great insurance companies has excited alarm in numerous quarters. Russia, always jealous of the funds of her people, requires that all money paid to insurance companies in that country shall be invested there; Germany imposes a similar regulation. France is upon the verge of doing the same thing. One important American insurance company invested \$2,000,000 in real estate in Paris, largely for its political effect in warding off the passage of just such a law. England's insurance laws are as liberal as could be wished, yet an American company maintains a voluntary bank deposit of \$500,000 in a London bank to allay any apprehension.

In this country insurance companies themselves are seeking to devise some means by which the money paid to them in premiums, interest on bonds and mortgages, etc., may be placed within reach of the communities from which the income is derived. A large amount of money is placed in State and municipal bonds, but these do not afford any material relief to the individuals from whom premiums have been drawn. Relief is possible, to some extent, by the proposed revision of mortuary tables which is expected to take place within a few years, and which, it is believed, will reduce the size of premium payments.

It is possible that the very solution of this problem of distributing the resources of these companies may come in a still

greater development of investments in diversified enterprises. The supply of available investments of the orthodox type is getting very limited. The most conservative companies do not expect during the next twenty years to reap more than three per cent. upon their investments. It will be necessary, therefore, for these companies to branch out into as many new fields as prove safe and profitable.

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W. J. HODDY—Filly by Rubenstein, a good horse. J. C. CLEW—Colt by Rubenstein that is fine. C. W. BETHAUSSEN—Walter Smith, 2:14, the best in his class, can trot in 2:10 three times. A. F. KEMMIGER—Douglas V., without training trotted mile wagon 2:18, will 2:10 or better. E. NISSELEY—The fast Billy F.

LADY CIVIL, 2:30, tr. 2:28 LADDIE, tr. 2:24 BONNIE WOOD, tr. 2:28 BILLY E. 2:19, tr. 2:18 DAN R. 2:20 MARY BATES, tr. 2:20 DOUGLAS B. 2:23, matinee 2:19 ETHEL B. tr. 2:27 WALTER SMITH, 2:14, tr. 2:13 LADY B. 2:14, tr. 2:14 TED, 2:13, tr. 2:10 MILDRED, 2:17, tr. 2:15

JIM FOLEY, tr. 2:28 PERSIMMONS, tr. 2:17 HARRY K. 2:24, tr. 2:14 RAYMOND D. tr. 2:22 LADY BROOKS, tr. 2:17 KELLEY, tr. 2:14 NICHOLAS B. 2:24, tr. 2:16 BERT A. 2:28 (2) tr. 2:24

RECORDS AND TRIALS: JIM FOLEY, tr. 2:28 PERSIMMONS, tr. 2:17 HARRY K. 2:24, tr. 2:14 RAYMOND D. tr. 2:22 LADY BROOKS, tr. 2:17 KELLEY, tr. 2:14 NICHOLAS B. 2:24, tr. 2:16 BERT A. 2:28 (2) tr. 2:24

Catalogues will be sent on applications only. Address,

HOOVER & EVANS, 35 Deshler Block, Columbus, Ohio.

### Maine Farm Notes.

One of the most remarkable seasons experienced for many years is now drawing to a close. For coolness and moisture it has been a record-breaker. The amount of rain which has fallen at any one time has not been excessive, yet the frequency of the rains, fogs and showers has been almost phenomenal. In the springtime it was difficult to get seed planted; in haying time many fields had to be hoed, or not hoed at all; and in harvest time it was impossible to secure all the crops in good condition.

In Kennebec County the hay crop was large, yet suffered more damage in harvesting than any other crop. The grain crop (mostly oats) was very heavy, and, with few exceptions, secured in good condition. The potato crop varied greatly in this vicinity, but not so much in yield as in condition at digging time, some fields rotting but little, while others were badly affected, all the way from fifty to ninety per cent. rotting.

Most of the corn planted in this and adjoining towns was intended for the silo. It is still backward and needs warm, sunny weather to mature sufficiently for that purpose. Some fields have been touched slightly by frost and it will not do to run much more risk before cutting.

The apple crop varies greatly, some orchards bearing heavily and others none at all, or very light crops. In many orchards one will find some trees heavily loaded, while others show very scattering crops. On the whole the season has been a fairly good one, for which we should be thankful.

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### FOR SALE.

WILLIAM I. 2:14, pacer, gray gelding, by Arrowwood, sound and in good condition. I. has started seven times this season, winning at Dover N. H., on Sept. 11, in three straight, and reducing his record to 2:11. He finished off his second or third in each of the other six races. He will be sold cheap, with all his accoutrements, blinkers, road wagon, etc., to a quick buyer. Price, \$1500. Address: OWNER, Box 878, Waterbury, Conn.

### FOR SALE.

Matched pair of chestnut geldings, four years old, 15 hands tall, weigh 2000 pounds, well bred, one by Elyria, prompt drivers, good knee action, sound and plenty of style. A. T. SPITZER, Medina, O.

### FOR SALE.

Brown stallion, one year old, sired by Baron Oakley, by Baron Wilkes, own brother to Oakland Baron, sire of Elyria, (2:08) and Baron de Shay (2:08); dam by Lumps, full sister to Lumbator, who sold for \$10,000; second dam by Governor Sprague, third dam by Maribelle Fatchen; fourth dam, Yandalla (thoroughbred). Sound and good gaited. Address: BRECKINRIDGE PAYNE, Lexington, Ky.

### FOR SALE.

The great brood mare Hour, record 2:17 (dam of San Temo, record 2:14, and colono, 2:24). Sired by O. Ward, 2:24. S. of Hazel, 2:04. Owned by Silver, 2:06, and 16 others in the list; dam, Jessie Turner, b. Man, rino Fatchen, 58, sire of the dams of Ralph Wilkes, 2:04, and 14 others in the list; second dam by Captain Walker (sire of the dams of Harry Wilkes, 2:14, etc.); third dam by Don Juan; fourth dam by Jack, 2:14, etc. She is a very fine standard performer. Hour is a br-w mare, foaled in 1884, and she was a noted race mare. Her record was a mile in a race in her five-year-old form to a high-wheel sulky at Lexington, Ky. She produced a fine last year's crop by Hagen, 2:04, and was bred to him this year, and is believed to be safely in foal. Price, \$500. For any particulars address: BOX 2806, Boston, Mass.

### FOR SALE.

Rex G. G., trotter, by Ira Nutwood, by Ira Wilkes, by George Wilkes; dam by Harrison's Child, a bought him with a record of 1:59; he is nine years old, a very strong made horse all over; 15 hands high; will weigh 1600 pounds; very stylish, fine mane and tail, and knows how to carry it; kind and gentle, sound, and no road is too long for him; a great feeder. I sold him for no fault, but an overstocked for the winter. I drove him a mile in September, in 2:28, quarter in 34 seconds, right off the road. Can draw a wagon and satisfy yourself that he is as represented. Price, \$250. No trains. DR. A. J. BROWN, 234 Genesee Street, Utica, N. Y.

### FOR SALE.

Must be sold at once, handsome black stallion, finely bred. Good reason for selling. Call or address: J. O. E. 17 Dean St., Danvers, Mass.

### FOR SALE.

Bay pacer gelding (5), five years old, 14 hands Can show mile in 2:18, quarter 32 seconds. By Mc-Ewen; let dam by Almer, 2:14, 2:14, 2:14; 2d dam by Onward; 3d dam by Paymaster; 4th dam by Tom Crowder (p.). For further particulars address: J. O. E. 17 Dean St., Danvers, Mass.

### FOR SALE.

Handsome bay gelding by Nelson's Wilkes; dam by Constellation, by Almont; stands 15.2, weighs 1600 pounds, perfectly kind and fearless of electric, auto and steam cars. Can trot quarter in 37 or 38 seconds, and a great brush horse, good gaited. Wilkes has five new ones in 2:30 this year. Address: W. B. MOSELEY, 573a Congress St., Portland, Me.